

Presenter	Title	Description	Dept	Class	MCL RCT		Time	Day
					T	R		
Kristina Ufer	Biosaline Agriculture: Solutions to New Solutions	One major factor limiting world-wide agricultural production is the increasing salinity in fresh water and soils. Here, I will discuss three current strategies towards raising salinity tolerance in crops: halophyte farming, selective breeding for desirable traits, and transgenic manipulation.	BIOL	499	131		3:30 PM-3:50 PM	F
Michael Allen	Apoptosis	Apoptosis, a deliberate and precisely controlled series of cellular events, ultimately leads to cell death. It is required for normal tissue homeostasis and development. My presentation will discuss the biochemical pathways in this process.	BIOL	499	132		3:30 PM-3:50 PM	F
Kara Grosvenor	The Decline of Salmon in the Pacific Northwest	This presentation will look at factors leading to the decline of salmon in the Pacific Northwest due to human influences. We will look at how dams and increased water temperatures have influenced migration and mortality rates.	BIOL	499	131		3:50 PM-4:10 PM	F
Soo Young Jung	Tissue Factor: Roles in Angiogenesis and Metastasis	TF is a receptor protein known to initiate coagulation, inflammation, and angiogenesis. The most intriguing role of TF is its influence on angiogenesis, which may lead to a metastasis of tumor. This presentation will discuss and present current research on TF and how it may lead to metastasis.	BIOL	499	132		3:50 PM-4:10 PM	F
Ralph Jay N. Pulido	The Effect of Environmental Stress in Regulating Heat Shock Proteins in Plants	Plants are frequently exposed to environmental stress; thus they need mechanisms to cope with such conditions. It has been shown that Heat Shock Proteins (HSPs) play a major role in protecting plants from excessive environmental heat and light. This presentation will focus on the role of HSPs.	BIOL	499	131		4:10 PM-4:30 PM	F

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Tasha Metcalf	Programmed Cell Death: A Host-Pathogen Evolutionary Arms Race	Programmed cell death (PCD) is a conserved mechanism that has developed and diversified within multicellular lineages. Certain viruses exploit their host's cell death programs to maximize fitness. A host-pathogen arms race relationship is presented as a selective pressure for the evolution of PCD.	BIOL	499	132		4:10 PM-4:30 PM	F
Zachary DeBoard	Antinociceptive Properties of The Endogenous Cannabinoids	The endogenous cannabinoids are a group of neurotransmitters known to mimic the active component of marijuana. This presentation will look at their behavioral and neurophysiological attributes with respect to pain inhibition and their potential as alternatives to narcotic pharmaceuticals.	BIOL	499	131		4:30 PM-4:50 PM	F
Seth Storby	Role of Traditional Chinese Herbal Medicine in Modern Cancer Therapy	Although Traditional Chinese Medicine has been labeled as an alternative form of medicine in the past, TCM is now starting to be used more frequently in western medicine. This presentation will discuss the methods for use of Traditional Chinese Herbal Medicine as an option for modern cancer therapy.	BIOL	499	132		4:30 PM-4:50 PM	F
Robbie Lee	Prairie Conservation Research and Applications	Prairies are one of the most highly threatened biomes in the world. This presentation looks at a brief history of prairies and some current conservation-oriented research studies and makes suggestions for the direction of future conservation efforts.	BIOL	499	131		4:50 PM-5:10 PM	F
Sabrina Osborn	IGF Levels and Cancer	Insulin growth factor 1 (IGF-1) levels are associated with risk for, and growth and metastasis of, some cancers. IGF-1 levels are influenced by protein consumption. This presentation will discuss this research and strategies for	BIOL	499	132		4:50 PM-5:10 PM	F

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		cancer prevention and intervention that could result from this work.						
Rebecca Gooding	Butterflies: Casualties of a Changing Global Climate	Climate change poses a serious threat to the biodiversity of our planet, and butterflies are especially vulnerable. Here, I describe the effects of climate change on butterflies at the physiological, population, and community levels, and then discuss directions for current and future research.	BIOL	499	131		5:10 PM-5:30 PM	F

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Kenneth Kramke	Murder Mystery	In order to interactively test students in Professor Spillman's computer forensics class, I'm helping him set up a murder mystery.	CSCE	499	203		12:30 PM-1:00 PM	F
Jae-Jin Lee	UML and Java	Using PHP and Ajax technology, my project is a web application that assists the user to easily create and edit UML (class)diagrams for their project. As the user builds their UML diagram, the application generates Java code for the corresponding UML diagram.	CSCE	499	203		1:00 PM-1:30 PM	F
James Winkler Bradley Mize	Texas Hold'em Simulation	This project explored the usage of polymorphism, custom comparators, abstraction, light artificial intelligence, and a graphical interface in the recreation of a version of the game Texas Hold'em.	CSCE	499	203		1:30 PM-2:00 PM	F
Carrie Resnik Ryan Stephens	KCCR Media Player	We developed a media player and database system using Python and MySQL that allows users to play any archived audio and keep a record of what has been played. This has been developed for KCCR, the student radio station here at PLU.	CSCE	499	203		2:00 PM-2:30 PM	F
		Break Poster Session					2:30 PM-3:30 PM	F
David Miller	Graphical Tennis Shot Simulator	This Java program, using the JOGL API, is a graphical representation of the flight and bounce of a user selected tennis shot.	CSCE	499	203		3:30 PM-4:00	F

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Scott Matsumura Bryce Ageno	No Limit Texas Hold'em Simulator	Our program is a simulation of the popular No Limit Texas Hold'em card game. A player is able to play against a single A.I., of which, we have provided two difficulty levels.	CSCE	499	203		PM 4:00 PM- 4:30 PM	F
Eric Scott Curtis Wittner	Java Code Editor	Using the JAVA editor kit and the ANTLR parser generator to create a Java code editor that is capable of error detection and lexical coloring, but without the complexity of a professional development environment.	CSCE	499	203		PM 4:30 PM- 5:00 PM	F

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Kerry Ewald	Robot Arm	The goal of this project was to design and implement a robot arm, using stepper motors, IR sensors, and a micro-controller. It was designed to perform the task of locating and lifting an object placed in its vicinity.	CSCE	499	203		9:30 AM-10:00 AM	S
Erik Marubayashi Paul Taladay Scott Taladay	Saybot: The Voice Controlled Robot	Our project consists of two major parts. The first is a program that converts a spoken command into a signal we can send to our robot through the serial port. The second is the robot, which will execute the program associated to the signal we sent to it.	CSCE	499	203		10:00 AM-10:30 AM	S
		Break Demos from the 9:30-10:00 talks will be presented in the hallway outside 203					10:30 AM-11:00 AM	S
Daniel McDonald Jeff Caley Matt Wuerffel	Lloyd's Lethal Left: The Robotic Hand	A sensor glove fitted with potentiometers is attached to a robotic hand via a development board. The board communicates to a Linux PC which interprets the data from the glove and sends commands to the hand to mimic the wearer's motions. Plus, it can play some fierce rock-paper-scissors.	CSCE	499	203		11:00 AM-11:30 AM	S
Christopher Gerdes	Linear Electromagnetic Accelerator	This project is a Computer Controlled Linear Electromagnetic Accelerator; more commonly known as a coil gun. Using two electromagnetic coils, the projectile will be accelerated through the barrel. The timing of the coils will be controlled by a microprocessor and the firing by a computer.	CSCE	499	203		11:30 AM-12:00 PM	S

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Kevin Yoder	The wiPod Project	The wiPod project is a hardware and software modification to Apple's iPod Mini, extending its functionality to communicate wirelessly with a remote server. Specifically, this phase of the project focuses on downloading and viewing e-mail from Google's mail server on the iPod.	CSCE	499	203		12:00 PM-12:30 PM	S
		Lunch Demos from the 11:00-12:00 talks will be presented in the hallway outside 203					12:30 PM-1:30 PM	S

Presenter	Title	Description	Dept	Class	MCL RCT		Time	Day
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Jim Bruso	Ray Tracer	The ray tracing algorithm attempts to duplicate the behavior of light as it interacts with different surfaces. Using the Phong reflection model, my implementation of the ray tracing algorithm models light sources and opaque surfaces with an overall goal of producing realistic images.	CSCE	499	203		1:30 PM- 2:00 PM	S
William Babcock Seth Kuehnert Douglas Mozeika	Banner CAPP Report Revision	In conjunction with the Registrar's Office, our objective was to improve the school's Banner Web CAPP report system. This included modifying the existing system by implementing majors and minors, eliminating errors, and improving the layout.	CSCE	499	203		2:00 PM- 2:30 PM	S
Jacob Nelson	Computing with DNA	Biomolecular computing is an exciting emerging field that takes advantage of natural structures and processes in biological systems to do incredibly dense, low-power computation. I will give an overview of the field and describe some research directions at the University of Washington and elsewhere.	CSCE	Alum nus	203		2:30 PM- 3:30 PM	S

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Becky Mares	PLU's Community Garden: Cultivating Sustainable Alternatives to Industrial Agriculture	Fertilizers and pesticides in industrial agriculture damage the environment and put human health at risk. Ethical implications emphasize the need for local, sustainable farming, such as organic community gardens, that are less harmful to the environment, and connect communities to their food source.	ENVT	499		109	12:30 PM-1:00 PM	F
Scott Harbour	Potential of Reclaimed Municipal Wastewater for Irrigation of Farmland on Central Whidbey Island	This project investigates the feasibility of implementing a reclaimed wastewater irrigation program on Ebey's Prairie, Central Whidbey Island. The topic will be approached from the perspectives of regulation, the wastewater treatment and reclamation process, and economics.	ENVT	499		109	1:00 PM-1:30 PM	F
Kara Grosvenor	The Decline of Salmon on the Columbia River and Hydroelectric Dams	This presentation will look at what role hydroelectric dams have played in the decline of salmon in the Columbia River. We will also look at alterations to the dams and programs to prevent salmon mortality during migration, along with historic and economic importance.	ENVT	499		109	1:30 PM-2:00 PM	F
Severin Hagen-Lillevik	The Future of the Snowpack and Glaciers in Alaska	Recent climate change in Alaska is causing temperatures to rise and most of the glaciers to recede. Many scientists attribute climate change to humans burning fossil fuels. Over the next 100 years, the state of Alaska will warm by 4-7 degrees Fahrenheit, and glaciers will continue to retreat.	ENVT	499		109	2:00 PM-2:30 PM	F
Rachel Esbjornson	Oil Development in Ecuador: Ecological Crisis and Ethical Implications	The Amazon Basin of Ecuador, the Oriente, is one of Earth's most biologically rich areas. Oil development threatens the ecological health of this region, subsequently impacting humans. Past and present impacts of oil development bring up ethical implications and questions that need to be explored.	ENVT	499		109	3:30 PM-4:00 PM	F
Justin Toney	The Impacts of	This project analyzes the economics of the post-fire	ENVT	499		109	4:00	F

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	Wildfire on Stream Channels, Economics, and Land Management in an Arid Environment	rehabilitation treatments conducted by the Bureau of Land Management. These treatments had varied success at stabilizing the slopes and stream channels in the Book Cliffs of south-eastern Utah.					PM- 4:30 PM	
Samantha Dillon	The Effects of Longline Fishing on Albatross Populations, Promoting Advocacy for an Animal With Literary and Cultural Significance	This project discusses the biological components of the albatross as it relates to the practice of longline fishing. It also examines the means of promoting advocacy for the bird through literature and art.	ENVT	499		109	4:30 PM- 5:00 PM	F

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Kris Peterson	Investigation of Sub-Arctic Stream Response to Climate Change as Evidenced by Soil Development Along the Pelly River, Yukon Territory, Canada	Soil developmental characteristics (e.g., physical, chemical) have been investigated as a proxy for geomorphic surface age. Horizon development (depth, thickness, color), redox features, and Fe ³⁺ /Fe ²⁺ ratios distinguish soils on different surfaces.	GEOS	499		109	8:30 AM-9:00 AM	S
Sara Baertschiger	Evidence of Paleotsunamis in Burley Lagoon, Purdy, Washington	Evidence of tsunamis in Burley Lagoon was inconclusive; however, the area is seismically active. Buried soils indicate subsidence to the south of the fault and salt marsh deposits above freshwater peat indicate uplift to the north (at Burley Lagoon).	GEOS	499		109	9:00 AM-9:30 AM	S
Matt Beatty	Determine the Causes of a Relative Rising Sea Level at Friday Harbor and a Relative Falling Sea Level at Neah Bay	Tectonic processes such as glacial rebound and areas of uplift and subsidence that occur on an active margin affect relative sea level. Friday Harbor is experiencing a relative rising SL while Neah Bay is experiencing a relative falling SL 75 miles away.	GEOS	499		109	9:30 AM-10:00 AM	S
Candice Hughes	Paleoecology of the Miocene Corals of the Tamana Formation of Trinidad and Tobago, West Indies	The opening of the Pacific during the breakup of Pangea caused the West side of Trinidad to be a high energy environment. During the Miocene Epoch the Tamana Formation consisted of an outer reef to the West, patch reef in the middle, and the mud flats(low energy)area to the East.	GEOS	499		109	10:00 AM-10:30 AM	S
Dacia LaRue	Distribution of Hydrothermal Vents at the Juan de Fuca	Analysis of the Cleft and Endeavour segments of the Juan de Fuca Ridge identified morphology, sediment accumulation, and bathymetric depth as controlling factors in the distribution of hydrothermal vents.	GEOS	499		109	11:00 AM-11:30 AM	S

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Aaron Young	Ridge Analysis of Terraces Along the Suiattle River, between Canyon and Downey Creeks	Suiattle River terraces are composed of lahar and alluvium deposits, which are distinguished based on sorting, composition, sedimentary characteristics, and provenance of clasts and sediments.	GEOS	499		109	11:30 AM- 12:00 PM	S
Michael Harper	The Future of Mount St. Helens	Could Mount St. Helens possibly have a major eruption in the near future with its continued activity? Studies suggest that due to the decreased amount of volatiles and dome growth within Mount St. Helens and through a comparison with Merapi of Java, Indonesia, that it will become dormant once again.	GEOS	499		109	12:00 PM- 12:30 PM	S

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Ingrid Stegemoeller	Uncovering the Mathematics Behind Public Opinion Polls	Public opinion polling gauges public sentiment about current events and issues. The media typically delivers poll results as percentages, often without supporting information. This paper illuminates some of the statistical components that provide the necessary context for such percentages.	MAT H	499	105		12:40 PM- 1:10 PM	F
Kaarin Praxel	Mathematical Models of Conflict Negotiation	I will analyze three mathematical models of conflict: game theory, the graph model for conflict resolution, and the mathematical formulation of arms races. I will look at the mathematical similarities between the models, historical applications of each model, and how each aids conflict negotiators.	MAT H	499	105		1:20 PM- 1:50 PM	F
Catherine Tryon	Numbers in the 4th Dimension	Ever wonder what numbers in the 4th Dimension look like? We will look at these numbers, called quaternions. We will look specifically at quaternion multiplication and take a short glimpse at why quaternion numbers are so unique.	MAT H	499	105		2:00 PM- 2:30 PM	F
James Winkler	Code Theory	I will cover some of the basic concepts of code theory, including necessity and functionality (how it works), as well as, the Hamming (8, 4) code and some properties of similar codes.	MAT H	499	105		3:30 PM- 4:00 PM	F
Thuy-Hang Le	The Nine Chapters of Chinese Mathematics	The Jiuzhang Suanshu or The Nine Chapters on the Mathematical Art is an important Chinese mathematical text that is broken into nine chapters containing a total of 246 problems. These problems are intended to provide methods to be used to solve everyday problems of engineering,	MAT H	499	105		4:10 PM- 4:40 PM	F

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surveying, trade, and taxation.

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Jennifer Stoops	Penrose Tilings	In this presentation we will explore the development of Penrose tilings and examine how these tilings differ from periodic tilings. We will also focus on rotational symmetry, as well as the processes of inflation and deflation, and their relationship to the golden ratio.	MAT H	499	131		9:40 AM- 10:10 AM	S
Tyler Reynolds	Chaos in Dynamical Systems	We will study the behavior of models that change over time. Dynamical systems will be introduced and we will focus on a model given by a quadratic family. Through an iteration process, we will study the orbit of a seed to see what this tells us about its behavior. Chaotic behavior will be introduced.	MAT H	499	132		9:40 AM- 10:10 AM	S
David Pedack	Option Pricing: An Introduction to the Black-Scholes Formula	This talk will start with an overview of options as they relate to the US equity market. The basic theory behind the derivation of the Black-Scholes formula will be presented. This talk will also include relevant examples of option valuation and option applications.	MAT H	499	131		10:20 AM- 10:50 AM	S
Melissa Moon	My Random Walk Exploring Markov Chains	Markov chains model random phenomena over time. Random walks are one type of Markov chain, and can describe the classical gambler's ruin problem as well as random paths on an infinite plane. We will examine many properties of random walks and Markov chains, such as expected long-run behavior.	MAT H	499	132		10:20 AM- 10:50 AM	S
Morgan Keys	An Introduction to Point-Set Topology and the Fundamental Group	The goal of this presentation is to give an introductory glimpse into some of the basic concepts and tools of topology. I will discuss the definition of a topology, examples of topologies, an algebraic approach to topology, and the definition of the fundamental group and its uses.	MAT H	499	131		11:20 AM- 11:50 AM	S

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Bryce Ageno	Shortest Path Algorithms and the Traveling Salesman Problem	I will discuss basic single-source shortest path algorithms and the Traveling Salesman Problem. My focus is the methodologies used to reduce the TSP to find a low cost Hamiltonian Circuit, in particular, integer programming, linear programming, the simplex algorithm, and the branch and bound method."	MAT H	499	132		11:20 AM- 11:50 AM	S
Misty Peterson	The Mathematics of Game Theory	Game theory is used by economists, government, and gamblers alike. Though the math is complex, the basic results of game theory are used to analyze everyday decision making. We will explore an introduction to the mathematics behind game theory, discussing main concepts and their results.	MAT H	499	132		12:00 PM- 12:30 PM	S

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Jay Jahnsen	The History and Development of Transfinite Cardinal Numbers and the Continuum Hypothesis	Prior to work done by Georg Cantor, the concept of infinity was poorly defined and understood. Cantor proved that there are different sizes of infinity and created transfinite cardinal numbers to describe these sizes. The continuum hypothesis gives a way to order and define these numbers.	MAT H	499	131		1:30 PM- 2:00 PM	S
Andrew James A. de Leon	Hanoi Tower Challenges	We examine the famous Hanoi Tower puzzle along with several variations. By extending the problem to four pegs instead of the usual three, we can explore the supposed optimal number of moves of what is known as the Reve's Puzzle along with various other rules and restrictions.	MAT H	499	132		1:30 PM- 2:00 PM	S
Donovan Jones	Linear Partial Differential Equations of Second Order	A study of linear partial differential equations of second order. Topics include modeling a vibrating string (one-dimension wave equation), modeling the vibration of a drumhead (two-dimension wave equation), and modeling heat diffusion in one and two dimensions.	MAT H	499	131		2:10 PM- 2:40 PM	S
Whitney-Rose Levis	A Survey of Abstract Algebra for the Middle Grades	The middle grades are a prime time for the development of formal thinking. It is still when students learn languages faster than adulthood. But the middle grades are also often filled with math frustration for students. Come get a glimpse of how abstract algebra can be taught to benefit these areas.	MAT H	499	132		2:10 PM- 2:40 PM	S
Jared Simon	The Mathematics of Secrecy	You swipe your credit card, grab your merchandise and take for granted the modular arithmetic that your plastic is performing in order to allow your transaction. This talk will focus on the history and applications of cryptography; in particular, we discuss the RSA algorithm.	MAT H	499	131		2:50 PM- 3:20 PM	S
Jonathan McFadden	Non-Linear Differential Equations	Non-linear differential equations and their solutions make up one of the most interesting parts of mathematics. I will survey methods for solving these equations, present Picard's	MAT H	499	132		2:50 PM- 3:20	S

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Theorem for the uniqueness and existence of solutions to these equations, and discuss Gauss's Hypergeometric Equation.

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David Pedack	Wavelength Dependence on the Specific Rotation of Optically Active Liquids	We discuss optically active substances and measure the wavelength dependence of the specific rotation of plane polarized light by corn syrup.	PHYS	499B	138		3:30 PM-3:45 PM	F
Donovan Jones	Effects of Air Resistance on a Moving Sphere	The effect of air resistance on a falling sphere is studied under various initial conditions, and the expected motion as described by the equations of motion is compared to experimental results captured on video.	PHYS	499B	138		3:45 PM-4:00 PM	F
Michael Perez	Exact Solution for Period of a Simple Pendulum	The exact solution to the differential equation for the period of a simple pendulum is explored, and compared to experimental results obtained from a photogate experiment.	PHYS	499B	138		4:00 PM-4:15 PM	F
Daniel Hould	Measuring Haze with a Sun Photometer	Tiny particles in the atmosphere such as water, smoke, and dust, known as aerosols, can play a major factor in respiratory health and weather. We calculate the aerosol optical thickness of the sky by comparing the measured intensity of the sun's rays to the amount of air the sunlight passes through.	PHYS	499B	138		4:15 PM-4:30 PM	F
Jonathan McFadden	Orbital Motion and Satellite Interception	This talk will discuss computer simulations of satellite interception and their physical basis. The Lagrangian formulation for the equations of motion and the properties of the central force motion that lead to these equations of motion are discussed.	PHYS	499B	138		4:30 PM-4:45 PM	F
Ample Hout	Cardiac Action Potential	Studies suggest that ventricular fibrillation may be caused by irregular waves breaking up into multiple wavelets. A	PHYS	499B	138		4:45 PM-	F

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		possible cause of this is the presence of electrical alternans. The goal of this project is to prepare for the summer program and to report on the current state of the research.					5:00 PM	
Melissa Moon	Heat to Shrink: Polymers, Rubber and Thermodynamics	Why did my new shirt shrink in the hot dryer? It can be readily observed that many polymers have this type of interesting behavior and contract when heated. We examine the thermal properties of common polymers such as rubber bands, Styrofoam plates and even Shrinky Dinks.	PHYS	499B	138		5:00 PM- 5:15 PM	F
Angella Wehry	Wilson Cloud Chamber	A Wilson Cloud Chamber was constructed, which shows the trails of charged particles, either from cosmic rays or emitted by a radioactive source, as they travel through the chamber. Such trails are expected to bend in an applied magnetic field due to their charge.	PHYS	499B	138		5:15 PM- 5:30 PM	F
Ryan Heywood-Cochran	Measuring the Energy Drain on a Car	The forces acting against a car as it is being driven are measured. We experimentally determine 3 forces acting on the vehicle: wind resistance (high/low speed), the coefficient of rolling friction (tires on the road) and the coefficient of drag by the engine.	PHYS	499B	138		5:30 PM- 5:45 PM	F

Poster Presentation Session

Presenter	Title	Description	Dept	Class	MCL T	RCT R	Time	Day
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Friday, 4 May 2007

2:30 PM – 3:30 PM

Morken Center

#	Presenter	Title	Description	Dept	Course
1	Thomas Mothersbaugh Daniel Wiessner Kate Wilson Joseph Sternard	Effective Minimum Inhibitory Concentrations of Three Bacteriocidal Agents		BIO 32 L 8 y	Microbiolog
2	Melissa Linn Megan Clarno Tyler Ruple Jake Beranek	Do You Have a Filthy Mouth?		BIO 32 L 8 y	Microbiolog
3	Jennifer Hargreaves Christine Gordon Joseph Meszaros Cory Kantorowicz Ruth Moore Elizabeth Sloan	Effectiveness of a Disinfectant		BIO 32 L 8 y	Microbiolog
4	Laura Saulnier Rachel Sparling Katrina Csonka Megan Murray	Human vs. Canine: Who Has the Cleaner Mouth?		BIO 32 L 8 y	Microbiolog
5	Vanessa Bruce Jon Novotney Daniel Volland Randy Saager Alecia Chang	Scrub-A-Dub-Dub: What's in Your Tub?		BIO 32 L 8 y	Microbiolog
6	Laura Bonino Kimberly Cotton Anne Jacobson Casey Pyle Andrea Schroeder	A Comparison of the Effectiveness of Different Handwashing Methods		BIO 32 L 8 y	Microbiolog
7	Francisco Madrigal Keane Lindblad	The A.-XX Effect	Androstadienone, a potent sex pheromone present in male perspiration, has been shown to have considerable neurological	BIO 44 L 4 y	Neurobiolog

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			effects on different populations of people based on their sexual orientation. The effects of this rightly named "love pheromone" are discussed in this research of published literature.		
8	Carmen Barnes Mari Elin Instefjord	The Neurobiological Contributions of Santiago Ramon y Cajal	A thorough description of the life and works of Santiago Ramon y Cajal and the major contributions he has made to the subject of neurobiology.	BIO 44 L 4 y	Neurobiolog
9	Michael Allen Mike Wauters	Multiple Sclerosis	Multiple sclerosis, a chronic degenerative disease of the CNS, causes myelin to deteriorate from around the axons. This loss of myelin causes muscular weakness, loss of coordination, speech, and visual disturbances. We plan to address the direct cause and effects of multiple sclerosis.	BIO 44 L 4 y	Neurobiolog
10	Christopher Davis Andrew Johnson	Canavan Disease	Canavan Disease is a severe neurodegenerative condition resulting from improper myelin synthesis. This leads to spongiform degeneration and severe psychomotor retardation. Our poster generally describes this disease, as well as discussing recent discoveries and relevant current research.	BIO 44 L 4 y	Neurobiolog
11	Alicia Che Blake Hovde	Effects of Cellular Phone Use on the Brain		BIO 44 L 4 y	Neurobiolog
12	Christina Tieu Claudia Arciga	The Effects of Lidocaine on Pain Perception	The application of the local anesthetic lidocaine prevents pain by hindering ion channels that aid in conveying pain signals to the brain. Current medical uses for lidocaine allow doctors to perform biopsies and minor surgeries without causing pain to their patients.	BIO 44 L 4 y	Neurobiolog
13	Jon Martinson Rose LeMieux	Anatomy and Physiology of the Meninges	A detailed look at the system of meninges surrounding the central nervous system of mammals and other vertebrates. Includes their embryonic origin, structure, function, and pathology.	BIO 44 L 4 y	Neurobiolog
14	Casey Pyle Andrew Eisentrout	Neuron Development and NGF	We plan to examine the role that NGF plays in neuronal development using the Neurotrophic Hypothesis.	BIO 44 L 4 y	Neurobiolog
15	Sunrise James	Synesthesia: Tasting Shapes	Synesthesia is a neurological condition in which two or more of	BIO 44	Neurobiolog

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	Joshua Poole	and Hearing Colors	the body's senses are coupled, for example, hearing and vision.	L	4 y
16	Tanya Libby Kiki Themelis	Emotional Modulation of Pain	We are interested in showing alternative influences and mechanisms that are responsible for the variability in chronic pain experienced by different people.	BIO L	44 4 y Neurobiolog
17	Amy Podurgiel Stephanie Agoncillo	Learned Pathways Within the Brain		BIO L	44 4 y Neurobiolog
18	Lauren Coate Sarah Martin	The Gate Theory of Pain		BIO L	44 4 y Neurobiolog
19	Christopher Davis	Poaceae of the South Puget Sound Prairies: A Checklist and Key to Species Identification	During the summer of 2006, seven prairie sites in the south Puget Sound area were visited and checklists of poaceae species at each site were assembled. These lists were then combined with other collected data to assess the state of these prairies with the hope of aiding local conservation efforts.	BIO L	2006 UR Program
20	Robbie Lee	Grasses of South Puget Sound Prairies: Mima Mounds, Glacial Heritage, and Scatter Creek	I visited seven prairies in South Puget Sound during the summer of 2006. I then focused on three of these prairies, compiling and analyzing data about the types and locations of grasses found there. According to these observations a checklist of species and an identification key were created.	BIO L	2006 UR Program
21	Elizabeth Sloan Kimberly Cotton Sarah Burke	Microbial Community Analysis by Carbon Source Utilization	Analysis of microbial community structure in forest canopy soils from the Gifford Pinchot National Forest was carried out using Biolog Ecoplates to determine carbon source utilization.	BIO L	2006 UR Program
22	Elizabeth Sloan Kimberly Cotton Sarah Burke	Molecular Analysis of Microbes from Tree Canopy Soils in Gifford Pinchot National Forest	Analysis of microbial communities from forest canopy soils from the Gifford Pinchot National Forest was carried out using 16SrRNA gene sequence analysis.	BIO L	2006 UR Program
23	Amanda Tschauner	Traditional Herbal Healing and the Advent of Modern Medicine:	Modern medicinal screening techniques have allowed Lacandon Mayan shaman to share their knowledge of medicinal plants. Lists of vascular plants used by the Maya have benefited the medical industry, but there are ethical issues regarding indigenous rights	BIO L	49 1 Study Independent

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		Hach Winik	and reimbursement that must be resolved.		
24	Rebecca Black	Taking a "Shot" at Conserving Biodiversity: Fair Trade Coffee	The relationship between the worldwide Fair Trade coffee market and biodiversity was examined to discern the favorable social and environmental conditions that may be created. Specifically, the relationships between coffee systems, birds, insects, arthropods and other organisms were studied.	BIO L	49 1 Independent Study
25	Laurent Nickel	Economic Activity in Clover Creek Watershed		ENV T	35 0 Environmental Methods
26	Eric Allen	Policy and Jurisdictions of Clover Creek Watershed		ENV T	35 0 Environmental Methods
27	Heather Crane	Population of Clover Creek Watershed		ENV T	35 0 Environmental Methods
28	Claire-Marie Krug	Land Use and Resources in Clover Creek Watershed		ENV T	35 0 Environmental Methods
29	Candi Ziegert	Biology of Clover Creek Watershed		ENV T	35 0 Environmental Methods
30	Kate Fontana	Chemistry of Clover Creek Watershed		ENV T	35 0 Environmental Methods
31	Robert Lee	Geology of Clover Creek Watershed		ENV T	35 0 Environmental Methods
32	Rob Childs Sara Baertschiger Bryan Johnson	Seismicity and Seismic Methods on the Juan de Fuca Ridge		GEOS	33 5 Geophysics
33	Pete Naval Melinda Salmirs Luke Weinbrecht	Tectonic Findings of the Juan de Fuca Ridge System		GEOS	33 5 Geophysics
34	Candice Hughes Daniel Lingenfelter	Magnetics of the Juan de Fuca Ridge		GEOS	33 5 Geophysics
35	Kristi Greenaway	Gravitational Anomalies of		GEOS	33 5 Geophysics

#	Presenter	Title	Description	Dept	Course
	Dan Ruff	the Juan de Fuca Ridge System		5	
36	Eric Allen Jess Caulkins Michael Harper	Geothermal Studies of the Juan de Fuca Ridge		GEOS 33	Geophysics 5
37	Alecia Chang	Glucokinase		CHE 40	Biochemistr M 5 y II
38	Mari Elin Instefjord	b-Hexosaminidase		CHE 40	Biochemistr M 5 y II
39	Jeffrey Ditto	Regulation of ATP Synthase		CHE 40	Biochemistr M 5 y II
40	Phuong Lien Nguyen	Evolution of Allosteric NADH-Inhibition in Hexameric Citrate Synthase of Gram-Negative Organisms		CHE 40	Biochemistr M 5 y II
41	Randall Saager	6-Phosphofructo-2-kinase/Fructose-2,6-bisphosphatase: A Potent Bifunctional Regulator of Glycolysis		CHE 40	Biochemistr M 5 y II
42	Jenny Blakey	Tay-Sachs Disease: Analysis of b-Hexosaminidase A		CHE 40	Biochemistr M 5 y II
43	Kimberly Cotton	Interconversion of Pyruvate and Lactic Acid by Lactate Dehydrogenase		CHE 40	Biochemistr M 5 y II
44	Daniel Jacobsen	Advancements in Production of Universal Blood Cells via a-		CHE 40	Biochemistr M 5 y II

#	Presenter	Title	Description	Dept	Course
		N-Acetylgalactosaminidase			
45	Daniel Jacobsen	Versatile Synthesis of Allyl Vinyl Ketones using a Bis(isoxazolidinyl) Urea	Synthesis of a new, crystalline carbonyl synthon {bis(isoxazolidinyl) urea} has been developed. This compound will be used as a tool for the synthesis of cyclohexenones by 6p-electrocyclization reactions.	CHE M & U R	49 9 2006 Capstone: Senior Seminar & UR Program
46	Breanna Vollmar	Structure and Dynamics of the Antimicrobial Peptide Piscidin	Piscidin 3 is a 22-residue, cationic amphipathic histidine-rich broad-spectrum antimicrobial peptide that has a highly conserved amino terminus. The effects of amidation at the C-terminus of piscidin 3 were investigated by structural and functional studies using solid-state NMR, circular dichroism, and antimicrobial assays.	CHE M & U R	49 9 2006 Capstone: Senior Seminar & UR Program
47	Joshua Poole	Reverse Transcriptase and Its Implications in HIV-1	An examination of reverse transcriptase in HIV-1 and its implications in terms of structure, function, evolution of HIV-1, and the CCR5 chemokine receptor.	CHE M	49 5 Independent Study
48	Keane Lindblad	Progress Towards the Synthesis of Chiral Tetraarylborate and Tetraarylaluminate Anions	Studies directed toward the synthesis of chiral tetraarylborate anions and tetraarylaluminate anions based upon the 1,1'-binaphthyl unit are described.	CHE M & U R	49 9 2006 Capstone: Senior Seminar & UR Program
49	Eric Gordon Daniel Hibbard Mycah Uehling	Comparison of Two "Green" Syntheses of 5,10,15,20-Tetraphenylporphyrin	Green chemistry is an emerging idea based on the principles of environmental stewardship and waste economy in chemical synthesis. Microwave and gas-phase syntheses of 5,10,15,20-tetraphenylporphyrin were compared. Porphyrins are pyrrole-based aromatic compounds that can be found in diverse biological roles, from chlorophyll to hemoglobin.	CHE M	33 6 Organic Special Projects Lab
50	Justin Diercks William Goldsworth Kelly King	Isolation and Characterization of Hesperidin	The flavonoid glycoside hesperidin is an antioxidant found in citrus fruits. It was successfully extracted from the peels of <i>Citrus sinensis</i> (navel orange), purified by crystallization, and characterized. This product correlated favorably with literature melting point and infrared spectral data.	CHE M	33 6 Organic Special Projects Lab

#	Presenter	Title	Description	Dept	Course
51	Nicole Grant Christina Tieu Melissa Youngquist	Solventless Wittig Reactions	Wittig reactions were investigated to produce (Z)-1-(4-chlorophenyl)-2-phenylethene and 1-chloro-4[(1E)-2-(4-methylphenyl)ethenyl]benzene by grinding phosphorus ylides and 4-chlorobenzaldehyde in a mortar and pestle. Spectroscopic methods (IR, NMR, GC/MS) confirmed the identities of the products.	CHE M	33 6 Organic Special Projects Lab
52	Alicia Che Samuel Jensen Tory Silvestrin	Isolation and Purification of Artemisinin From <i>Artemisia annua</i>	Artemisinin is a potent antimalarial drug. It was extracted from fresh <i>Artemisia annua</i> , purified, and identified according to spectroscopic properties.	CHE M	33 6 Organic Special Projects Lab
53	Hakme Lee	Extracurricular Activities of Succinyl-CoA Synthetase	Succinyl-CoA Synthetase (SCS) has been recognized for over half a century as the only site for substrate-level phosphorylation in the citric acid cycle. This poster will discuss the structure and function of SCS, describing G-SCS and A-SCS forms, and detailing functions of SCS recently discovered.	CHE M	40 5 Biochemistr y II
54	Christopher Hamre	Bicontinuous Microemulsion Study of Ternary Polymer Blends by Dynamic Light Scattering	High temperature dynamic light scattering and cloud point measurements were used to conduct research on the bicontinuous microemulsion phase of polystyrene-polybutadiene (PS-PB) polymer mixtures. As expected, data of a ternary polymer sample showed bimodal decay.	CHE M	49 9 Capstone: Senior & Seminar & U 2006 UR R Program
55	Robert W. Westermann	Implications of the Activation and Regulation of Tyrosine Kinase Class II (Insulin Receptors) for Treatment of Diabetes Mellitus		CHE M	40 5 Biochemistr y II
56	Justin Carlson	Progress Toward the Total Synthesis of Nootkastatin 2	The initial steps toward the first synthesis of this antimicrobial diterpenoid compound, produced by the yellow cedar tree, are elucidated.	CHE M	49 9 Capstone: Senior & Seminar & U 2006 UR R Program
57	Justin Carlson	Function of ADP-Glucose		CHE	40 Biochemistr

#	Presenter	Title	Description	Dept	Course
58	Chelsea Berdahl	Pyrophosphorylase Propionyl-CoA Carboxylase Structure and Function in Amino Acid and Fatty Acid Metabolic Pathways		M 5 y II CHE 40	Biochemistr
59	Christine Gordon	Triose Phosphate Isomerase		CHE 40 M 5 y II	Biochemistr
60	Jennifer Ng	Isocitrate Dehydrogenase: Catalytic Mechanism, Regulation, and Structure		CHE 40 M 5 y II	Biochemistr
61	Jacob Beranek	b-Ketoacyl (ACP) Synthase		CHE 40 M 5 y II	Biochemistr