

Spokane Intercollegiate Research Conference
April 27-28, 2007
Whitworth College

The Spokane Intercollegiate Research Conference is dedicated to the promotion and recognition of distinguished, original student research performed in partnership with faculty or other mentors. Presentations are based on research students have conducted in a broad spectrum of disciplines including biochemistry, computer science, English, communication, history, political science, education, marketing, theatre and athletic training.

Conference Schedule

Friday, April 27

2:15-3:30 p.m.

- Session 1 – Weyerhaeuser 203
- Session 2 – Weyerhaeuser 204
- Session 3 – Weyerhaeuser 205
- Session 4 – Weyerhaeuser 303
- Session 5 – Weyerhaeuser 304

3:45-5 p.m.

- Session 6 – Weyerhaeuser 203
- Session 7 – Weyerhaeuser 303
- Session 8 – Weyerhaeuser 205
- Session 9 – Weyerhaeuser 303
- Session 10 – Weyerhaeuser 304
- Session 11 – Weyerhaeuser 305

5:15-6:30 p.m.

- Session 12 – Weyerhaeuser 204
- Session 13 – Weyerhaeuser 205

Saturday, April 28

8:30-10:30 Coffee and pastries in Avista Square

9-10:15 a.m.

- Session 14 – Weyerhaeuser 204
- Session 15 – Weyerhaeuser 205
- Session 16 – Weyerhaeuser 303
- Session 17 – Weyerhaeuser 304
- Session 18 – Weyerhaeuser 203

10:30-11:45 a.m.

- Session 19 – Weyerhaeuser 204
- Session 20 – Weyerhaeuser 205
- Session 21 – Weyerhaeuser 303
- Session 22 – Weyerhaeuser 304
- Session 23 – Weyerhaeuser 305
- Session 24 – Weyerhaeuser 203

11:45 a.m.-1:15 p.m.

- Session 25 – Poster Session,
Hixson Union Building

12 p.m.-1:15 p.m.

- Session 26 – Weyerhaeuser 204
- Session 27 – Weyerhaeuser 205

Schedule of Presentations and Poster Sessions

Session 1 Friday, 2:15-3:30 p.m.

Weyerhaeuser 203

Special Session (see also Session 6)

“Empirical Research in Political Science”

Faculty Moderator: Michael Le Roy

1A Ann Parker: “‘Je m’informe, je m’engage’: French and American Youth Roles in Civil Society”

Faculty Sponsor: Laura Brunell

1B Ayadi Besma, Michael Marchesini, Kurtis Young

Possible topics: “Hispanic Attitudes toward Immigration,” “Education and Democracy in the Islamic World,” or “Education and Political Liberalism.”

Faculty Sponsor: Michael Le Roy

1C Edward Anegon, Ronnie Jensen, and Chelsea Peterson

Possible topics: “Changing Attitudes toward Same-Sex Marriage,” “Voting for Checks and Balances,” or “Ethnic Conflict and Political Freedom.”

Faculty Sponsor: Michael Le Roy

Session 2 Friday, 2:15-3:30 p.m.

Weyerhaeuser 204

Special Session

“Contemporary Metaphysics”

Faculty Moderator: Rebekah Rice

2A Thomas Ruble: “Quale Hunting”

Faculty Sponsor: Rebekah Rice

2B Stephen Montgomery: “A Response to the Problems of Material Constitution”

Faculty Sponsor: Rebekah Rice

2C Benjamin Compton: “Personal Identity: Doubting the Dominant View”

Faculty Sponsor: Debby Hutchins

Session 3 Friday, 2:15-3:30 p.m.

Weyerhaeuser 205

3A Ashley Johnson: “The Various Motives and Interpretations of Christopher Columbus”

Faculty Sponsor: James Hunt

3B Matt Halldorson: “Jesus in American Popular Culture”

Faculty Sponsor: Dale Soden

- 3C Marissa Putigam: “Race Relations Across Cultures”
Faculty Sponsor: Jennifer Holsinger

Session 4 Friday, 2:15-3:30 p.m.

Weyerhaeuser 303

- 4A Brian Baumann and William Sehorn: “Walking Through Walls with Markov Chain”
Faculty Sponsor: Nicholas Willis
- 4B Miyuki Gimera: “Ground Zero: Designing Hardware-Level Optimization for a Data Stream Management System”
Faculty Sponsor: Peter Tucker and Kent Jones
- 4C Christopher Peterson: “Recording and Querying History Over a Non-Terminating Data Stream”
Faculty Sponsor: Peter Tucker
- 4D Ruurd Poutsma: “EcoStreams: Ecologically Inspired Architecture for a Data Stream Management System”
Faculty Sponsor: Kent Jones

Session 5 Friday, 2:15-3:30 p.m.

Weyerhaeuser 304

- 5A Kelly Stubbs: “The Impact of a Basketball's Physical Properties on Player Performance”
Faculty Sponsor: Philip Appel
- 5B Darcy Wagner: “Rationale for a Biocompatible Dry Cell Battery”
Faculty Sponsor: Philip Appel

Session 6 Friday, 3:45-5 p.m.

Weyerhaeuser 203

Special Session (see also Session 1)

“Empirical Research in Political Science”

Faculty Moderator: Michael Le Roy

- 6A Clinton Lipscomb, Benjamin Tkach, and Shaina Western
Possible topics: “Religious Commitment and Immigration,” “Race and Attitudes toward Neighborhood Integration,” or “Attitudes toward Social Justice and the Vote for Women.”
Faculty Sponsor: Michael Le Roy
- 6B John Harlow, Gavin Jamieson, and Rachel Martin
Possible topics: “World Religions and Abortion,” “Oil Wealth and Corruption,” or “Gender Equality and Political Activism.”

Faculty Sponsor: Michael Le Roy

Session 7 Friday, 3:45-6:30 p.m.

Weyerhaeuser 303

Special Session (see also Session 9)

[Note: This Special Session 7/9 may be divided: Session 7, 3:45-5 p.m.; Session 9, 5:15-6:30 p.m.]

“Medieval and Early Modern Studies: Anglo Saxon Culture and Chivalry”

Faculty Moderator: Corliss Slack

7A Nicole Montoya: “The Trial of the Templars”
Faculty Sponsor: Corliss Slack

7B Valerie Ovitt: “Illuminating the ‘Dark Ages’: A Revisionist Look at Late Antiquity”
Faculty Sponsor: RáGena DeAragon

7C Jennifer Stankovic: “The Public Theatre in Renaissance England”
Faculty Sponsor: Doug Sugano

7D Michelle Schultz: “Gentillesse in the Canterbury Tales”
Faculty Sponsor: Corliss Slack

Session 8 Friday, 3:45-5 p.m.

Weyerhaeuser 205

Special Session

“Computer Based Practicing Strategies for Violin Study”

Faculty Moderator: Philip Baldwin

8A Melissa Burgess: “Bach: ‘Siciliana’ from *Sonata #1 in G Minor*”
Faculty Sponsor: Philip Baldwin

8B Danielle Chiavetta: “Kreisler: Preludium and Allegro”
Faculty Sponsor: Philip Baldwin

8C Jessie Fishburn: “Spohr: Violin Concerto #2”
Faculty Sponsor: Philip Baldwin

8D Jason Heide: “Bartok: Rumanian Folk Dances”
Faculty Sponsor: Philip Baldwin

8E Michael Korpi: “Lalo: Symphonie Espagnole”
Faculty Sponsor: Philip Baldwin

8F Angela Leonardi: “Mendelssohn: Violin Concerto”
Faculty Sponsor: Philip Baldwin

8G Mari Thomas: "Beethoven: Spring Sonata"
Faculty Sponsor: Philip Baldwin

Session 9 Friday, 3:45-6:30 p.m.

Weyerhaeuser 303

Special Session (see also Session 7)

[Note: This Special Session 7/9 may be divided: Session 7, 3:45-5 p.m.; Session 9, 5:15-6:30 p.m.]

"Medieval and Early Modern Studies: Anglo Saxon Culture and Chivalry"
Faculty Moderator: Melissa Sprenkle

9A Nicole Parker: "The Oral Tradition of Anglo-Saxon Literature"
Faculty Sponsor: Melissa Sprenkle

9B Shannon Genzone: "The Role of Women in Beowulf"
Faculty Sponsor: Melissa Sprenkle

Session 10 Friday, 3:45-5 p.m.

Weyerhaeuser 304

10A Clare Alexander, Cassandra Green, Brigitta Petersen: "The Effects of a Token Economy and a Response Cost Procedure on the Self-Stimulation and Academic Accuracy of a Middle School Student Diagnosed with Autism"
Faculty Sponsors: Kimberly Weber and Tim McLaughlin

10B Lorrie Smyly: "The Relationship Between Advanced Clinical Technology and Patient Care"
Faculty Sponsor: Adrian Popa

10C Lisa Pakrul: "The Lived Experience of Female Middle School Teachers Who Were Victims of Bullying in the School Environment"
Faculty Sponsor: Craig Hinnenkamp

10D Caroline McCue and Kathleen Sutherland: "Effects of *Teach Your Child to Read in 100 Easy Lessons* on the Beginning Reading Skills of Two Children With Learning Disabilities"
Faculty Sponsor: Randy Williams

Session 11 3:45-5 p.m.

Weyerhaeuser 305

11A Nicholas Maquillan, Robert Wahlstedt and Seth Wall: "A Novel Approach to Genetic Sequence Visualization"
Faculty Sponsor: Kent Jones and Finn Pond

11B Brennan McQuerry: "Using Computers to Explore How Biological Neurons Might Learn Images: Applying Genetically Programmed Discrete Dynamical Basis Networks to the Problem of Image Compression and Storage"
Faculty Sponsor: Kent Jones

11C Kalen Spees: "Picturesque Streams: Visualizing Streaming Database Management Systems"
Faculty Sponsor: Kent Jones

Session 12 Friday, 5:15-6:30 p.m.

Weyerhaeuser 204

12A Andrew Zellman: "Implementation of Punctuation Semantics for Use With Non-Terminating Data Streams"
Faculty Sponsor: Peter Tucker

12B Daniel Alldredge and Joshua Simmons: "A River Runs Through It: Realistic Artificial Procedural Terrain (RAPT)"
Faculty Sponsor: Kent Jones

12C Dallas Crockett and Ben Newman: "Versatility and Understanding of a Query Application"
Faculty Sponsor: Peter Tucker

Session 13 Friday, 5:15-6:30 p.m.

Weyerhaeuser 205

13A Ryan Niemeyer: "Dung Beetles Found in Areas with Domesticated and Non-domesticated Animals as Disseminators of the Diarrhea-causing Pathogens *Cryptosporidium* and *Giardia*"
Faculty Sponsor: Craig Tsuchida

13B Adam Wargacki: "Structural Analysis of the Allosteric Bicarbonate Binding Site in Eubacterial β -carbonic anhydrases"
Faculty Sponsor: Jeff Cronk

13C Aubrey Prince: "Light Therapy: Practical Application in Collegiate Athletic Training"
Faculty Sponsor: Mike Ediger

Session 14 Saturday, 9-10:15 a.m.

Weyerhaeuser 204

14A Ryan Niemeyer: "Inequality as a Causative Agent of Poor Health"
Faculty Sponsor: Julia Stronks

14B Victoria Hope: "The Camino de Santiago: My Journey as a Pilgrim"
Faculty Sponsor: Angeles Aller

14C Jeffrey Upton: "Hardships and Benefits of Living Abroad"
Faculty Sponsor: Angeles Aller

Session 15 Saturday, 9-10:15 a.m.

Weyerhaeuser 205

Special Session

“Allies, Foes, and Tactics: The Challenge of Fighting Difficult Wars”

Faculty Moderator: Dale Soden

15A Nicole Montoya: “The Use of Agent Orange: Why did it seem necessary?”

Faculty Sponsor: Dale Soden

15B Daniel Griffin: “Constrained Allies: Ngo Dinh Diem and Nouri al Maliki”

Faculty Sponsor: Dale Soden

15C Emilee Langbehn: “Liberating Revolutionaries or Evil Foes: Ho Chi Minh and Osama Bin Laden”

Faculty Sponsor: Dale Soden

Session 16 Saturday, 9-10:15 a.m.

Weyerhaeuser 303

Special Session

“Lives and Images Inside Victorian Britain”

Faculty Moderator: Pam Parker

16A Allison Geeslin: “ ‘It is home, and I can’t put its charm into words’: Conceptions of Home and Femininity in *Lady Audley’s Secret* and *North and South*”

Faculty Sponsor: Pam Parker

16B Erin Boyington: “ ‘A Third Remove’: Gerard Manley Hopkins’ Terrible Sonnets”

Faculty Sponsor: Pam Parker

16C Katie Shaw: “The Victorian Politics of Hair”

Faculty Sponsor: Pam Parker

Session 17 Saturday, 9-10:15 a.m.

Weyerhaeuser 304

17A Laura Blum and Taylor Phillips: “Prime Factorization: A Pilgrimage Through the Valley of Genetic Algorithms”

Faculty Sponsor: Kent Jones

17B Stephen Ash: “Adapting the Query Architecture for Punctuated Data Streams”

Faculty Sponsor: Peter Tucker

17C Paul Stephens: “Determining the Necessary Load Shedding Through Query Optimization”

Faculty Sponsor: Peter Tucker

Session 18 Saturday, 9-10:15 a.m.

Weyerhaeuser 203

Special Session (see also Session 24)

“Jane Austen: Gender, Class, Economics”

Faculty Moderator: Laura Bloxham

18A Jennifer Crane: “Lady Susan: Lashing Out Rationally”

Faculty Sponsor: Laura Bloxham

18B Kathryn Freese: “Coming of Age: Jane Austen’s Development of Character and Theme”

Faculty Sponsor: Laura Bloxham

18C Julie Lauterbach: “*Sense and Sensibility*: Traded Female Dependencies”

Faculty Sponsor: Laura Bloxham

Session 19 Saturday, 10:30-11:45 a.m.

Weyerhaeuser 204

Special Session:

“Paradoxes, Puzzles, and Logical Alternatives”

Faculty Moderator: Debby Hutchins

19A Emily Hurianek: “Kant’s Philosophy of Objects as Phenomena or Noumena”

Faculty Sponsor: Keith Wyma

19B Nicole Rosenkrance: “The Liar Paradox”

Faculty Sponsor: Debby Hutchins

19C Joseph Vargo: “Hilbert’s Hotel”

Faculty Sponsor: Debby Hutchins

Session 20 Saturday, 10:30-11:45 a.m.

Weyerhaeuser 205

Special Session

“Different Responses to the Communist Threat”

Faculty Moderator: Dale Soden

20A Ed Black “East Asian Nationalist Government’s Response to Communism”

Faculty Sponsor: Dale Soden

20B Tyler Schroeder: “The Search for a Peaceful Resolution in Vietnam”

Faculty Sponsor: Dale Soden

20C Amber Glen: “Frustration with the War: The aftermath of the Tet Offensive”

Faculty Sponsor: Dale Soden

Session 21 Saturday, 10:30-11:45 a.m.

Weyerhaeuser 303

Special Session:

“Shakespeare at War, on Stage, and in the Classroom”

Faculty Moderator: Pam Parker

21A Julie Lauterbach: “A King for All Worlds”

Faculty Sponsor: Pam Parker

21B Gwen Sellers: “Deceptions and Conclusions”

Faculty Sponsor: Pam Parker

21C Beth Lanctot: “To Teach or Not To Teach: The Value of *Henry* as a Teaching Tool”

Faculty Sponsor: Pam Parker

21D Suzanne Sherman: “Villains Across Genres in Shakespeare”

Faculty Sponsor: Pam Parker

Session 22 Saturday, 10:30-11:45 a.m.

Weyerhaeuser 304

22A Jacqueline Swartz: “Community Attachment”

Faculty Sponsor: Jennifer Holsinger

22B Jessica Davis and John Williamson: “Understanding Discussions of Religion: Narrative Accounts of Positive Negative Interactions”

Faculty Sponsor: Alan Mikkelson

22C Ali Hudak and Laura Richardson: “Understanding Self-Disclosure in Long Distance Romantic Relationships and Geographically Close Romantic Relationships”

Faculty Sponsor: Alan Mikkelson

Session 23 Saturday, 10:30-11:45 a.m.

Weyerhaeuser 305

23A Corinne Wilson: “Cinderellas Don’t Do Slumber Parties: The Enduring Power of Disney Film”

Faculty Sponsor: Pam Parker

23B Rachel Gray: “Language and Pop Culture: The Postcolonial Filipino American Voice”

Faculty Sponsor: Doug Sugano

23C Leah Silvieus: “Colonialism and Courtship: The Relationship between Gender and Imperialism in Shakespeare”

Faculty Sponsor: Doug Sugano

Session 24 Saturday 10:30-11:45 a.m.

Weyerhaeuser 203

Special Session (see also Session 18)

“Jane Austen: Gender, Class, Economics”

Faculty Moderator: Laura Bloxham

24A Anne O’Connor: “Damsels in Distress in *Pride and Prejudice*”
Faculty Sponsor: Laura Bloxham

24B Corin Fayé: “True Nobility in *Pride and Prejudice*”
Faculty Sponsor: Laura Bloxham

24C Rachel Cowen: “Jane Austen’s Apparent Fresh View of Marriage in *Persuasion*”
Faculty Sponsor: Laura Bloxham

Session 25 Saturday, 11:45 a.m.-1:15 p.m.

Lied Square, Hixson Union Building

Poster Presentations

25A Philip Grahlfs and Paul Long: “Performance Analysis of Antimicrobial Beads for Left Ventricular Assist Device Pocket Infections”
Faculty Sponsor: Frank Caccavo

25B Amber Fowler, Adam Loeffler and Paul Young: “Production and Propagation of Magnetic Fields for Intense Dynamic Loading”
Faculty Sponsor: Kamesh Sankaran

25C Preston Hoffman and Kalen Spees: “Simulation of Plasma Flows in Magnetic Nozzles for Spacecraft Propulsion.”
Faculty Sponsor: Kamesh Sankaran

25D Jocelyn Wilson: “A study in aggression between various species of crab”
Faculty Sponsor: Craig Tsuchida

25E Alisha Anderson and Brent Knight: “Energy Dependence of Rose Bengal Fluorescence in Various Solvents”
Faculty Sponsor: John Larkin

25F Jamie Bonga and April Stadler: “Investigation of the Interaction of Subunits E and G in Yeast Vacuolar ATPase”
Faculty Sponsor: Deanna Ojennus

- 25G Susan Conley-Barrett, Kari Herberg and Christine Samoei : “Effects of Reading Racetrack and Flashcard System on Reading Words by Two Academically At-Risk Students”
Faculty Sponsor: Randy Williams
- 25H Kristen Eguchi: “Television and Its Effects on Sleep Quality”
Faculty Sponsor: Andrea Donahoe
- 25I Kristen Eguchi, Maghan Runestrand and Cody Simonson: “Sleep Disturbances and Its Association with Glucose Metabolism”
Faculty Sponsor: Mike Sardinia
- 25J Priscilla Fuentes: “Body-Esteem and Leadership: A Comparison of Genders”
Faculty Sponsor: Andrea Donahoe
- 25K Kate Fuller and Nick Strand: “A Possible Role for Glial Matrix Metalloproteinases in Memory Retention”
Faculty Sponsor: Mike Sardinia
- 25L Bonnie Glaser, Leslie Mix and Jodi Tangen: “The Effects of a Token Economy on Reading Comprehension and Reading Speed of a Ninth Grade Student with Learning Disabilities”
Faculty Sponsor: Betty Williams
- 25M Corinne Hodges, Erin Nakasone and Katie Spence: “The Effects of a Math Racetrack on At-Risk Elementary Students’ Performance on Addition Facts and Number-Word Recognition”
Faculty Sponsor: Betty Williams
- 25N Shannon Root: “The Influence of Water Flow in Nudibranch Habitat Selection and the Reactions of *Triopha Catalinae* to Diverse Water Flow Rates”
Faculty Sponsor: Craig Tsuchida
- 25O Sarah Rim: “Phototaxic Movement and Influence of Various Substrates on Locomotion of *Strongylocentrotus Droebachiensis* on San Juan Island”
Faculty Sponsor: Craig Tsuchida
- 25P Amy Newton: The Influence of Varied Substrates and Feeding in the Locomotion of *Pycnopodia helianthoides*
Faculty Sponsor: Craig Tsuchida
- 25Q Jamie McDonald: “Graphic Analysis of Selected Mitochondrial Genomes: Testing a New Tool for DNA Visualization”
Faculty Sponsor: Finn Pond

- 25R John Rudolph: “Influences of Various Substrates on Velocity and Pulling Power of *Cancer Magister* and *Cancer Productus*”
Faculty Sponsor: Craig Tsuchida
- 25S Elizabeth Pempe and James Smith: “Structural Homology Modeling of V-ATPase Subunit d in Yeast”
Faculty Sponsor: Deanna Ojennus
- 25T Joshua Hinnenkamp: “Determining the Effects of Simulated Coastal Dead-Zone Conditions on the Behavioral Response of the Dungeness Crab (*Cancer Magister*)”
Faculty Sponsor: Craig Tsuchida
- 25U Gregory Lammert: “The Effect of Turbulent Water Flow on *Pisaster ochraceus*, as Studied on San Juan Island”
Faculty Sponsor: Craig Tsuchida
- 25V Stephany Jeffers and Ben Moresco: “Natural Pesticide and Plant Allelopathy”
Faculty Sponsor: Mike Sardinia

Session 26 Saturday 12-1:15 p.m.

Weyerhaeuser 204

- 26A Eric Brewer: “Filling up what is lacking in Christ’s afflictions”: Atonement in Pauline Thought and Western Christian Traditions
Faculty Sponsor: Karin Heller
- 26B Evan Cate: “Dostoevsky’s Orthodoxy”
Faculty Sponsor: James Edwards
- 26C Sarah Butler: “The Christocentric Theology of Karl Barth”
Faculty Sponsor: Adam Neder

Session 27 Saturday 12-1:15 p.m.

Weyerhaeuser 205

Special Session

“Fighting a Guerilla War: Different Approaches from Different Sides”
Faculty Moderator: Dale Soden

- 27A John Ellings: “Comparing guerilla war strategies: The French and the Americans in Vietnam”
Faculty Sponsor: Dale Soden
- 27B David Dolphay: “Comparing insurgencies: The Viet Cong and the Iraqi Insurgents”
Faculty Sponsor: Dale Soden

- 27C Samantha Keenan: “Strategic Success and Unexpected Defeat: Viet Cong and North Vietnamese strategies and tactics against the United States Army”
Faculty Sponsor: Dale Soden
- 27D Chris Waddell: “U.S. Strategic Failure in Vietnam: An Appraisal of Harry Summers’ Critique”
Faculty Sponsor: Dale Soden