

SOURCE Presentation Submission

The mission of the Symposium for University Research and Creative Expression (SOURCE) is to provide a university-wide forum for Central Washington University (CWU) students, encouraging equity, diversity, and inclusivity, representing all disciplines and experience levels, to present their mentored research, scholarship, and creative works in a juried environment that meets professional conference standards and expectations.

Learn more here: <https://www.cwu.edu/source>

There are two types of student SOURCE presentation opportunities:

- (1) SOURCE Poster Session (3-10mins, pre-recorded, due May 13).
- (2) SOURCE Oral Presentation (10mins, live-streamed and in-person/via zoom on May 18 & May 19)

==== If you are applying to present you will need: ===

- * Name and information for the primary presentation contact. This student will be responsible for sharing the SOURCE information with the rest of the presentation team.
 - * Name(s), emails, and student IDs of other presenters
 - * Name and emails of faculty mentor(s)
 - * Title of Presentation
 - * Type of Presentation
 - * Abstract for Presentation. (250 words, pre-approved by a faculty mentor, copy edited PRIOR to submission)
- You can see sample abstracts for SOURCE here: <https://www.cwu.edu/undergrad-research/example-source-abstracts>
- * Other information related to the research/scholarship/creative experience.

If you are prepared with this information please submit your presentation.

1. Which SOURCE opportunity are you applying to? *

- SOURCE Poster Session (3-10mins, pre-recorded, due May 13. Viewable May 15- May 21).
- SOURCE Oral Presentation (10mins, live-streamed and in-person/via zoom on May 18 & May 19)

SOURCE Project Symposium Presenter Information

Submit information for the primary presentation contact.

- * For individual student presentations, submit your personal information.
- * For student group presentations, please choose one student to serve as the primary student contact. You will enter other students' information below.

2. First Name of Primary Contact *

Andrew

3. Last Name of Primary Contact *

Struthers

4. CWU email of Primary Contact *

StruthersA@cwu.edu

5. CWU student ID of Primary Contact *

41371870

6. Student Status of Primary Contact *

SOURCE presenters should all be students associated with Central Washington University

Undergraaduate

Graduate

Other

7. Major of Primary Contact *

Enter the name of your major program(s), or enter "undeclared" if you do not have a major.

- Accessibility Studies
- Accounting
- Actuarial Science
- Administrative Management
- Africana and Black Studies
- American Indian Studies
- Anthropology & Museum Studies
- Apparel, Textiles, and Merchandising
- Applied Mathematics
- Art + Design
- Asian Studies
- Aviation Managment
- Biochemistry
- Biological Sciences
- Biology Teaching
- Biomedical Science Specialization
- Business Administration
- Business and Marketing Teacher Preparation

- Career and Technical Education Teaching
- Chemistry
- Chemistry Teaching
- Clinical Physiology
- Communication
- Computer Science
- Construction Management
- Craft Brewing
- Cultural & Environmental Resource Management
- Cybersecurity Specialization
- Dance
- Digital Journalism
- Early Childhood Education
- Ecology and Evolutionary Biology Specialization
- Economics
- Educational Foundations & Curriculum
- Electronic Engineering Technology
- Elementary Education
- Engineering Technologies, Safety & Construction
- English
- English and Language Arts Teaching
- English Language and Literature
- English Professional and Creative Writing
- Entrepreneurship

- Environmental Geosciences
- Environmental Studies
- Exercise Science
- Family and Child Life
- Family & Consumer Sciences
- Family & Consumer Sciences Teaching
- Film and Video Studies
- Finance & Supply Chain Management
- Food Science and Nutrition
- French
- Geography
- Geological Sciences
- Geology with Teaching Endorsement
- Graphic Design
- Health Careers
- Heritage Spanish
- History
- History/Social Studies Teaching
- Hospitality, Tourism and Event Management
- Individual Studies
- Industrial Technology
- Information Technology and Administrative Management
- Information Technology Specialization
- Instructional Foundations

- Integrated Energy Management
- Interdisciplinary Studies - Social Sciences
- Japanese
- Law & Justice
- Liberal Studies
- Library & Information Science
- Linguistics
- Marketing
- Mathematics
- Math Education
- Mechanical Engineering Technology
- Middle Level Science Teaching
- Middle Level Humanities
- Middle Level Mathematics Teaching
- Military Science
- Molecular and Cell Biology Specialization
- Museum of Culture & Environment
- Music Composition
- Music Education
- Music Perfomance
- Network Management Specialization
- Non-Profit Management
- Paramedicine
- Philosophy & Religious Studies

- Physical Education, School Health
- Physics
- Physics Teaching Endorsement
- Physics/Engineering Dual Degree
- Political Science
- Primate Behavior & Ecology
- Professional Pilot
- Psychology
- Public Health
- Public Policy
- Public Relations
- Resource Management
- Retail Management and Technology Specialization
- Risk, Insurance, and Safety Management
- ROTC
- Safety and Health Management
- Science Education
- Social Services
- Sociology
- Spanish
- Special Education
- Sport Management
- STEP
- Studio Art

- Teacher Education
- Technology Education
- Theatre Arts
- Theatre Arts Design and Production
- Theatre Arts Musical Theatre
- Theatre Arts Performance Specialization
- Theatre Education
- Theatre Studies
- Visual Art Teaching
- Web and Data Base Administration Specialization
- Women's, Gender and Sexuality Studies
- World Languages
- Undeclared
- Other

8. Anticipated graduation year of Primary Contact *

When do you anticipate graduating with your current degree plan?

- 2021
- 2022
- 2023
- 2024
- Other

9. Type of presentation *

For group presentation, please choose one student to serve as the primary student contact. You will enter other students' information below.

- Individual Student Presenter
- Group (2 or more students) Presentation

Primary Faculty or Staff Mentor**10. Mentor First Name ***

Brandy

11. Mentor Last Name *

Wiegers

12. CWU email for Mentor *

Brandy.Wiegers@cwu.edu

13. Primary Mentor department or program *

If you do not see your mentor's Department/Program on the list, please select "Other" and fill in their area below.

- Accessibility Studies
- Accounting
- Actuarial Science

- Administrative Management
- Africana and Black Studies
- American Indian Studies
- Anthropology & Museum Studies
- Apparel, Textiles, and Merchandising
- Applied Mathematics
- Art + Design
- Asian Studies
- Aviation Management
- Biochemistry
- Biological Sciences
- Biology Teaching
- Biomedical Science Specialization
- Business Administration
- Business and Marketing Teacher Preparation
- Career and Technical Education Teaching
- Chemistry
- Chemistry Teaching
- Clinical Physiology
- Communication
- Computer Science
- Construction Management
- Craft Brewing
- Cultural & Environmental Resource Management

- Cybersecurity Specialization
- Dance
- Digital Journalism
- Early Childhood Education
- Ecology and Evolutionary Biology Specialization
- Economics
- Educational Foundations & Curriculum
- Electronic Engineering Technology
- Elementary Education
- Engineering Technologies, Safety & Construction
- English
- English and Language Arts Teaching
- English Language and Literature
- English Professional and Creative Writing
- Entrepreneurship
- Environmental Geosciences
- Environmental Studies
- Exercise Science
- Family and Child Life
- Family & Consumer Sciences
- Family & Consumer Sciences Teaching
- Film and Video Studies
- Finance & Supply Chain Management
- Food Science and Nutrition

- French
- Geography
- Geological Sciences
- Geology with Teaching Endorsement
- Graphic Design
- Health Careers
- Heritage Spanish
- History
- History/Social Studies Teaching
- Hospitality, Tourism and Event Management
- Individual Studies
- Industrial Technology
- Information Technology and Administrative Management
- Information Technology Specialization
- Instructional Foundations
- Integrated Energy Management
- Interdisciplinary Studies - Social Sciences
- Japanese
- Law & Justice
- Liberal Studies
- Library & Information Science
- Linguistics
- Marketing
- Mathematics

- Math Education
- Mechanical Engineering Technology
- Middle Level Science Teaching
- Middle Level Humanities
- Middle Level Mathematics Teaching
- Military Science
- Molecular and Cell Biology Specialization
- Museum of Culture & Environment
- Music Composition
- Music Education
- Music Perfomance
- Network Management Specialization
- Non-Profit Management
- Paramedicine
- Philosophy & Religious Studies
- Physical Education, School Health
- Physics
- Physics Teaching Endorsement
- Physics/Engineering Dual Degree
- Political Science
- Primate Behavior & Ecology
- Professional Pilot
- Psychology
- Public Health

- Public Policy
- Public Relations
- Resource Management
- Retail Management and Technology Specialization
- Risk, Insurance, and Safety Management
- ROTC
- Safety and Health Management
- Science Education
- Social Services
- Sociology
- Spanish
- Special Education
- Sport Management
- STEP
- Studio Art
- Teacher Education
- Technology Education
- Theatre Arts
- Theatre Arts Design and Production
- Theatre Arts Musical Theatre
- Theatre Arts Performance Specialization
- Theatre Education
- Theatre Studies
- Visual Art Teaching

- Web and Data Base Administration Specialization
- Women's, Gender and Sexuality Studies
- World Languages
- Other

14. Additional Faculty or Staff Mentors names and major department

Please list all additional faculty or staff mentors here.

Include each mentor's first and last name separated by semicolons.

For example:

John Smith, Music ; Sarah Jones, Math

Enter your answer

15. Additional Faculty or Staff Mentors

Please list all additional faculty or staff mentors CWU email addresses, separated by semicolons.

For example:

smithj@cwu.edu ; joness@cwu.edu

Enter your answer

Presentation Project Information

16. Title of Presentation/Performance *

Modeling the S&P 500

17. Subject area of the presentation *

You are selecting this to help us group similar presentations together. For many their major and their topic are the same. If yours is different, pick the topic area that best aligns with your presentation so you can present with others in the same topic. You can also select Other at the bottom and explain how you'd like to be grouped.

- Accessibility Studies
- Accounting
- Actuarial Science
- Administrative Management
- Africana and Black Studies
- American Indian Studies
- Anthropology & Museum Studies
- Apparel, Textiles, and Merchandising
- Applied Mathematics
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- Environmental Studies
- Exercise Science

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- Family & Consumer Sciences
- Family & Consumer Sciences Teaching
- Film and Video Studies
- Finance & Supply Chain Management
- Food Science and Nutrition
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- Individual Studies
- Industrial Technology
- Information Technology and Administrative Management
- Information Technology Specialization
- Instructional Foundations
- Integrated Energy Management
- Interdisciplinary Studies - Social Sciences
- Japanese

- Law & Justice
- Liberal Studies
- Library & Information Science
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- Non-Profit Management
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- Physical Education, School Health
- Physics
- Physics Teaching Endorsement

- Physics/Engineering Dual Degree
- Political Science
- Primate Behavior & Ecology
- Professional Pilot
- Psychology
- Public Health
- Public Policy
- Public Relations
- Resource Management
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- Theatre Education
- Theatre Studies
- Visual Art Teaching
- Web and Data Base Administration Specialization
- Women's, Gender and Sexuality Studies
- World Languages
- Other

18. Presentation Abstract *

Your abstract will later be published on Scholarworks. If you would not like to have your abstract published, please email source@cwu.edu.

The abstract should be one paragraph (250 words or less). You may copy and paste from a word document or enter the text directly in the box below. Please show abstract to mentor PRIOR to submission. Please copy edit abstract PRIOR to submission.

You can see sample abstracts here <https://www.cwu.edu/undergrad-research/example-source-abstracts>

The stock market is frequently targeted by mathematicians and non-mathematicians alike. Most people's goal in life is to make a bunch of money, and the stock market provides that glimmer of hope a lot of us need. In this project, I will be attempting to model the S&P 500, one of the most famous indexes on the stock market. The S&P 500 is a portfolio of the top 500 performing companies on the publicly traded market, tied into one index. I will be taking a sample of the price of the S&P 500 once every hour, each hour, for the duration of an arbitrary day, then attempt to fit various interpolating curves to this data in an attempt to predict the next hour's price. The mathematical methods I will use will form different interpolating polynomials that I can then take and plug back in an arbitrary time value. The value of the interpolating polynomials at this arbitrary time value will represent the estimated price of the S&P 500 based off of the previously captured data. From there, I will be able to write code that automatically

19. Keywords *

List 3 keywords that reflect important concepts or topics in your presentation. Capitalize the keywords and separate them with commas. PLEASE NOTE: Along with those 3 keywords, add the words "academic service learning", "diversity," or "sustainability" if they apply to your presentation.

"Stock Market", Modeling, Interpolation, Polynomial

20. Presentation Format *

Descriptions regarding the different presentation formats can be found here,
<https://www.cwu.edu/undergrad-research/presenting-source>

- Presentation
- Creative expression/performance
- Constructed and creative objects
- Panel

Experience details

Tell us about your experience doing the work that you are going to present.

21. The primary source of project presentation work *

Where did you primarily do the work for the project being presented?

- Class Project
- Research or project with Central faculty/staff mentor, outside of class
- Research or project with organization outside of Central, outside of class
- Independent research or project without faculty/staff or other organization, outside of class

22. Time of Project: *

When did you do the work for the project being presented? Please select all that apply

- During the academic year, for a specific class

- During the academic year, outside of specific classes
- During the summer break
- During academic breaks (December holidays and Spring Break)

23. Funding *

Did you receive funding from an on-campus group to support this scholarship work?

- Yes
- No

24. Study Abroad/International Experience *

Did this project involve a study abroad or international experience?

- Yes
- No

25. Academic Service-Learning *

Did this project involve academic service-learning?

- Yes
- No

26. Library *

Did anyone in your research, scholarship, creative project, work with the Library to do this work?

- Yes- Check out the reSOURCE award at the end of this form.
- No

Research Approvals

Tell us about any human subject or animal approvals related to the research you will be presenting.

27. Does your research involve human subjects? *

If your proposed research involves human subjects, you are required to obtain approval from the Human Subjects Review Council (HSRC) and submit proof of approval before funds can be granted.

Yes

No

28. Does your research involve dangerous materials? *

If your proposed research involves dangerous animals, equipment, or materials (including chemicals), you are required to submit a Standard Operating Procedure (SOP) specific to the danger.

Yes

No

29. Does your research involve animal subjects? *

If your proposed research involves animal subjects, you are required to obtain approval from the Institutional Animal Care and Use Committee (IACUC) and submit proof of approval before funds can be granted.

Yes

No

30. If you responded yes to any of the above questions, please upload the appropriate documentation. (Non-anonymous question ①)

Upload IACUC approval (or application), HSRC approval (or application), or SOP(s) if necessary. Files must be less than 10 MB.

Supporting Students

Central Washington University is committed to creating a learning environment that meets the needs of its diverse student body. If you anticipate or experience any barriers to learning, discuss your concerns with the OUR office, source@cwu.edu

Students with disabilities should contact Disability Services to discuss a range of options to removing barriers, including accommodations. If you are seeking accommodations for SOURCE, there is the option of temporary registration through Disability Services. Call (509) 963-2214 or email ds@cwu.edu for more information.

31. Support Requests

Given the SOURCE goal to support all students in presenting their work, are there any special requests that you have for these presentations?

Enter your answer

SOURCE Awards

SOURCE supports several awards for student and mentor work

- * SOURCE Student Presentation Awards - these will be awarded after faculty and community judges provide feedback to presentations during the week of SOURCE.
- * Faculty Mentor Awards - details below
- * Library reSOURCE Awards - details below

You can learn about past award winners here, <https://www.cwu.edu/undergrad-research/past-conferences>

32. Would you like to receive faculty and community feedback for your presentation?

Note: Only judged presentations are eligible for SOURCE Student Presentation Awards

- No, I prefer only peer feedback during the event
- Yes, I would like to have judges attend my presentation and provide feedback and review my presentation for a potential presentation award.

33. Mentor of the Year Award Nomination

Any student may nominate their mentor for the Mentor of the Year award, sponsored by the United Faculty of Central. Check "Yes" if you wish to nominate your primary mentor, and we will follow up with you. Just checking the box is not enough: You will be sent an email reminder after SOURCE submissions close with more information asking you to submit a 500-word nomination essay.

- Yes, I would like to nominate my primary mentor and commit to submitting an essay.
- No, I do not wish to nominate my primary mentor at this time.

34. Interested in nominating yourself for ReSOURCE Award?

CWU Libraries and the Friends of the Brooks Library will award up to four SOURCE projects the reSOURCE award for outstanding use of library resources in your project. This includes books, journals, Archives & Special Collections, databases, library equipment, and even our programs and spaces! The library faculty and staff themselves are resources in your research journey. See <https://www.lib.cwu.edu/> for all that the CWU Libraries have to offer. If you apply, you will be asked to write a brief essay, less than 250 words, on how you used the library and/or its resources in your work. A library committee will select the winners and each of the four awardees will receive a prize from CWU Libraries.

Would you like to be considered for the Library reSOURCE award? If you select yes, you will be contacted after SOURCE abstract submissions close given a timeline of when to submit your essay.

- Yes
- No

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