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2020 Summer Undergraduate Research Program Virtual Symposium

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2020 SURP Symposium



2020 Summer Undergraduate Research Program Virtual Symposium
Friday, July 31, 2020
1:00 - 3:30 pm

*Use the links below to access the virtual symposium sessions.
You will need the password provided in the event invitation to access all sessions.*

Event Schedule

1:00 - Welcome, Introductions, & Keynote Address [[Main Zoom Room](#)]

Welcome Address by Jennifer Cooley, Associate Dean College of Humanities, Arts and Sciences

UNI Alumni Keynote Address

Wesley Even

Deputy Group Leader

Computational Physics and Methods Group

Los Alamos National Laboratory

University of Northern Iowa, Physics Major, 2003



1:30 - Concurrent Sessions by SURP Teams

Please See Detailed Program Below

3:30 - **Main Zoom Room** Open for Follow Up Conversations - The Main room will remain open for as long as needed.

How to engage with a scientific researcher about their project - **tips**.

Schedule of Concurrent Sessions

This area will be finalized by Thursday morning.

Main/Concurrent Session Room 1

with Room Host: Marcy Seavey

1:30-1:42

Fluorescent Speleothem in Wind Cave and their Synthetic Analogues
Teresa Feldman and Joshua Seabee,
University of Northern Iowa

<join room> <[view scholarworks](#)>

1:42-1:54

Analyzing and Classifying Single Molecule Microscopy Data
Troy Buzynski and Ali Tabei,
University of Northern Iowa

<join room> <[view scholarworks](#)>

Concurrent Session Room 2

with Room Host: Pavel Lukashev

1:30-1:42

First-principles study of $V(1+x)S(2-x)$ monolayer
Adam Ramker, Evan O'Leary and Pavel Lukashev, University of Northern Iowa

<join room> <[view scholarworks](#)>

1:42-1:54

Chemical substitution induced half-metallicity in $CrMnSb(1-x)Px$
Devon VanBrogen, Adam Ramker, Evan O'Leary, and Pavel Lukashev, University of Northern Iowa

<join room> <[view scholarworks](#)>

Concurrent Session Room 3

with Room Host: Andrew Berns

1:30-1:42

Maximizing Participation in an Online Mathematics Course
Lauren Falck and Douglas Shaw,
University of Northern Iowa

<join room> <[view scholarworks](#)>

1:42-1:54

Developing Arduino Coding Curriculum

Tyler Brown, Riley Bucheitte, Timothy Kidd, University of Northern Iowa

<join room> <[view scholarworks](#)>

1:54-2:06

1:54-2:06

Image analysis of DNA AFM images
Sophie Roberts and Ali Tabei,
University of Northern Iowa

<join room>

2:06-2:18

Dynamic Monte Carlo Modeling of
Protein-DNA Interactions

Aaron Kirchman and Ali Tabei,
University of Northern Iowa

<join room> <view scholarworks>

2:18-2:30

Blood Pressure Awareness Among
University of Northern Iowa Students

Abigail Weekley*, Theresa
Spradling*, and Robert Good^
University of Northern Iowa*, Carle
Heath System^

<join room> <view scholarworks>

2:30-2:42

Chemical substitution induced half-
metallicity in CrMnSb(1-x)Px

Devon VanBrogen, Adam Ramker,
Evan O'Leary, and Pavel Lukashev,
University of Northern Iowa

<join room> <view scholarworks>

2:42-2:54

Image analysis of DNA AFM images

Sophie Roberts and Ali Tabei,
University of Northern Iowa

<join room>

1:54-2:06

Modeling the Griffiths Phase in
Manganese Intercalated Tantalum
Disulfide

Aaron Janaszak, Lukas Stuelke, and
Paul Shand, University of Northern
Iowa

<join room>

2:06-2:18

Griffiths Phase of the Three
Dimensional Ising Model

Paul White and Paul Shand,
University of Northern Iowa

<join room>

2:18-2:30

Additive Manufacturing with
Nanocellulose

Nathan Schmidt and Timothy Kid,
University of Northern Iowa

<join room> <view scholarworks>

2:30-2:42

Fluorescent Speleothem in Wind
Cave and their Synthetic Analogues

Teresa Feldman and Joshua Sebree,
University of Northern Iowa

<join room> <view scholarworks>

2:42-2:54

Sacrificial seed's impact on native
seedling establishment in prairie
restoration

Jacey Meier, Isabella Betzer, and
Laura Jackson, University of Northern
Iowa <join room> <view
scholarworks>

Insect Community Diversity On
Campus Prairies With Different Ages

Taylor Murray and Ai Wen, University
of Northern Iowa

<join room> <view scholarworks>

2:06-2:18

Sacrificial seed's impact on native
seedling establishment in prairie
restoration

Jacey Meier, Isabella Betzer, and
Laura Jackson, University of
Northern Iowa

<join room> <view scholarworks>

2:18-2:30

Algorithmic Exploration and
Simulation of Population Protocols

Alan McKay and Andrew Berns,
University of Northern Iowa

<join room> <view scholarworks>

2:30-2:42

Break

2:42-2:54

First-principles study of $V(1+x)S(2-x)$
monolayer

Adam Ramker, Evan O'Leary and
Pavel Lukashev, University of
Northern Iowa <join room> <view
scholarworks>

2:54-3:06 Maximizing Participation in an Online Mathematics Course Lauren Falck and Douglas Shaw, University of Northern Iowa <join room> < view scholarworks >	2:54-3:06 Modeling the Griffiths Phase in Manganese Intercalated Tantalum Disulfide Aaron Janaszak, Lukas Stuelke, and Paul Shand, University of Northern Iowa <join room>	2:54-3:06 Developing Arduino Coding Curriculum Tyler Brown, Riley Bucheitte, Timothy Kidd, University of Northern Iowa <join room> < view scholarworks >
3:06-3:18 Analyzing and Classifying Single Molecule Microscopy Data Troy Buzynski and Ali Tabei, University of Northern Iowa <join room> < view scholarworks >	3:06-3:18 Algorithmic Exploration and Simulation of Population Protocols Alan McKay and Andrew Berns, University of Northern Iowa <join room> < view scholarworks >	3:06-3:18 Blood Pressure Awareness Among University of Northern Iowa Students Abigail Weekley*, Theresa Spradling*, and Robert Good* University of Northern Iowa*, Carle Heath System^ <join room> < view scholarworks >
3:18-3:30 Insect Community Diversity On Campus Prairies With Different Ages Taylor Murray and Ai Wen, University of Northern Iowa <join room> < view scholarworks >	3:18-3:30 Dynamic Monte Carlo Modeling of Protein-DNA Interactions Aaron Kirchman and Ali Tabei, University of Northern Iowa <join room> < view scholarworks >	3:18-3:30 Griffiths Phase of the Three Dimensional Ising Model Paul White and Paul Shand, University of Northern Iowa <join room>

<join room> links have been removed. This event took place on Friday, July 31, 2020.

Thank you to our sponsors who make the Summer Undergraduate Research Program possible.

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- Dr. Robert and Brenda Good Undergraduate Research Fellowship
- Myrna and Gary Floyd Undergraduate Research Assistantship
- [Irvine Prairie Restoration Fund](#)
- Merry and Steve Heilmann
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- Dean's Office, **College of Humanities, Arts and Sciences**

UNI Departments of:

- **Biology**
- **Chemistry and Biochemistry**
- **Computer Science**
- **Earth and Environmental Science**
- **Mathematics**
- **Physics**



The Undergraduate Experience



The Summer Undergraduate Research Program engages students across 7 departments in faculty mentored summer research. SURP students present their research at the Annual SURP Symposium.



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Learn about UNI STEM Departments' Outreach and Programs



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