United Nation's Sustainable Development Goals (SDG)

Moderated by:
Dr. Frank A. Gomez
Executive Director, STEM-NET
Office of the Chancellor

https://www2.calstate.edu/impact-of-the-csu/research/stem-net

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United Nation’s Sustainable Development Goals (SDG)

Speakers

Ganesh Raman, Chancellor’s Office
Welcome, Introduction and Framing of SDG Elements and Data

Debbie Andres and Bill DeVincenzi, San Jose State
Complete SDG Assessment for San Jose State University

Jun Bando, CCST
UN Sustainable Development Goals: Trends and Opportunities

Emma V. Sanchez, SFSU
Nutrition and Health Equity: The Role of Policies and Built Environments

Arne Jacobson, Cal Poly Humboldt
Creating Institutions to Support SGD Progress: Quality Assurance for Off Grid Solar Products
Welcome, Introduction and Framing of SDG Elements and Data

Ganesh Raman – Chancellor’s Office
UN Sustainable Development Goals

Themes

- Nutrition and health (1, 2, 3, 6)
- Economic opportunity (4, 7, 8, 9)
- Environmental sustainability (11, 12, 13, 14, 15)
- Governance and justice (5, 10, 16, 17)
California State Needs & Opportunities

Governor’s FY2022-23 budget request includes $22B+ for climate action:

- Forest health/fire protection - $1.2B
- Water & drought response - $750M
- Nature-based solutions/extreme heat/coastal & community resilience - $2.1B
- High speed rail & transportation - $9.1B
- Zero emission vehicles - $6.1B
- Clean energy - $2B
- Research, innovation & workforce development - $550M
Complete SDG Assessment for San Jose State University

Debbie Andres, Senior Sustainability Lead
William DeVincenzi, Faculty in Residence for Sustainability

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william.devincenzi@sjsu.edu
The Sustainable Development Goals (SDGs) are a set of 17 integrated and interrelated goals to end poverty, protect the planet and ensure that humanity enjoys peace and prosperity by 2030.

SDGs were adopted by all member states of the United Nations in 2015 in an effort to establish a global partnership. Universities can participate in some or all of the 17 SDGs.
2021 Times Higher Education (THE) Impact Rankings

• SJSU finished in the top 30 among U.S. institutions and top 500 worldwide. Included SJSU for first time
• Measure university progress around Sustainable Development Goals (SDGs)
• SJSU participated in five SDGs: Good Health and Wellbeing; Sustainable Cities and Communities; Life
  Below Water; Peace, Justice and Strong Institutions; and Partnership for the Goals
• SJSU’s best showing was in the Life Below Water SDG, finishing in the top 10 in the U.S. and #62 in the
  world.
### Course Audit

Each SDG has at least 1 department that best exemplifies what our school is doing to achieve these goals by offering classes and research opportunities.

<table>
<thead>
<tr>
<th>UN Sustainable Development Goal</th>
<th>Department</th>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDG 1: No Poverty</td>
<td>School of Social Work</td>
<td>College of Health and Human Sciences</td>
</tr>
<tr>
<td>SDG 2: Zero Hunger</td>
<td>School of Nutrition, Food Science, and Packaging</td>
<td>College of Health and Human Sciences</td>
</tr>
<tr>
<td>SDG 3: Good Health and Well Being</td>
<td>Public Health and Recreation</td>
<td>College of Health and Human Sciences</td>
</tr>
<tr>
<td>SDG 4: Quality Education</td>
<td>Child and Adolescent Development Department</td>
<td>College of Education</td>
</tr>
<tr>
<td>SDG 5: Gender Equality</td>
<td>Sociology and Interdisciplinary Social Sciences</td>
<td>College of Health and Human Sciences</td>
</tr>
<tr>
<td>SDG 6: Clean Water and Sanitation</td>
<td>Civil Engineering</td>
<td>College of Engineering</td>
</tr>
<tr>
<td>SDG 7: Affordable and Clean Energy</td>
<td>Electrical Engineering</td>
<td>College of Engineering</td>
</tr>
<tr>
<td>SDG 8: Decent Work and Economic Growth</td>
<td>College of Business</td>
<td>College of Business</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>UN Sustainable Development Goal</th>
<th>Department</th>
<th>College</th>
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</thead>
<tbody>
<tr>
<td>SDG 9: Industry, Innovation and Infrastructure</td>
<td>School of Global Innovation and Leadership</td>
<td>College of Business</td>
</tr>
<tr>
<td>SDG 10: Reduced Inequalities</td>
<td>College of Social Science</td>
<td>College of Social Science</td>
</tr>
<tr>
<td>SDG 11: Sustainable Cities and Communities</td>
<td>Urban and Regional Planning</td>
<td>College of Social Science</td>
</tr>
<tr>
<td>SDG 12: Responsible Consumption and Production</td>
<td>Industrial Studies</td>
<td>College of Engineering</td>
</tr>
<tr>
<td>SDG 13: Climate Action</td>
<td>Meteorology and Climate Science</td>
<td>College of Science</td>
</tr>
<tr>
<td>SDG 14: Life Below Water</td>
<td>Moss Landing Marine Lab</td>
<td>College of Science</td>
</tr>
<tr>
<td>SDG 15: Life on Land</td>
<td>Environmental Science</td>
<td>College of Social Science</td>
</tr>
<tr>
<td>SDG 16: Peace, Justice and Strong Institutions</td>
<td>Justice Studies</td>
<td>College of Social Science</td>
</tr>
<tr>
<td>SDG 17: Partnerships for the Goals</td>
<td>Global Studies</td>
<td>College of Social Science</td>
</tr>
</tbody>
</table>
JS 25 - Introduction to Human Rights and Justice

3 unit(s)
This course is a lower division introduction to the history of human rights as a concept and body of international law, and to the complicated role of human rights in contemporary social justice campaigns.

Satisfies D: Social Sciences (formerly GE Area D3).

Grading: Letter Graded

Sustainability Focused - SDG 16: Peace, Justice and Strong Institutions

Class Schedule | Syllabus Information | University Bookstore

METR 205 - Advanced Atmospheric and Climate Dynamics

3 unit(s)
Dynamics of larger-scale atmospheric flows over short and climate timescales. Quasi-geostrophic theory and applications; atmospheric waves; baroclinic instability; energetics of atmospheric and climate systems; dynamics of the general circulation; dynamics of the climate system; dynamics of climate change.

Prerequisite(s): METR 121B or equivalent
Grading: Letter Graded

Sustainability Related - SDG 13: Climate Action

Class Schedule | Syllabus Information | University Bookstore
Research Output

Preliminary audit of SJSU’s research output using SDG’s as criteria

<table>
<thead>
<tr>
<th>SDG</th>
<th>Scholarly output</th>
<th>Share of all SJSU Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>18</td>
<td>0.6%</td>
</tr>
<tr>
<td>2</td>
<td>19</td>
<td>0.6%</td>
</tr>
<tr>
<td>3</td>
<td>178</td>
<td>5.6%</td>
</tr>
<tr>
<td>4</td>
<td>123</td>
<td>3.9%</td>
</tr>
<tr>
<td>5</td>
<td>53</td>
<td>1.7%</td>
</tr>
<tr>
<td>6</td>
<td>30</td>
<td>0.9%</td>
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<tr>
<td>7</td>
<td>121</td>
<td>3.8%</td>
</tr>
<tr>
<td>8</td>
<td>53</td>
<td>1.7%</td>
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</table>

<table>
<thead>
<tr>
<th>SDG</th>
<th>Scholarly output</th>
<th>Share of all SJSU Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>98</td>
<td>3.1%</td>
</tr>
<tr>
<td>10</td>
<td>82</td>
<td>2.6%</td>
</tr>
<tr>
<td>11</td>
<td>138</td>
<td>4.3%</td>
</tr>
<tr>
<td>12</td>
<td>31</td>
<td>1.0%</td>
</tr>
<tr>
<td>13</td>
<td>59</td>
<td>1.9%</td>
</tr>
<tr>
<td>14</td>
<td>35</td>
<td>1.1%</td>
</tr>
<tr>
<td>15</td>
<td>25</td>
<td>0.8%</td>
</tr>
<tr>
<td>16</td>
<td>99</td>
<td>3.1%</td>
</tr>
</tbody>
</table>

SDG Assessment for SJSU
2022 SJSU Sustainable Development Report

1. Research and Innovation
2. Advancement
3. Student Affairs
4. Colleges
5. Athletics
6. Student Organizations
7. Faculty
8. Administration and Leadership
### Example: SDG 10 Reduced Inequalities

Empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.

<table>
<thead>
<tr>
<th>RESEARCH AND INNOVATION</th>
<th>ADVANCEMENT</th>
<th>STUDENT AFFAIRS</th>
<th>COLLEGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Rights Institute, Institute for Emancipatory Education, Institute for the Study of Sport, Society and Social Change</td>
<td>Endowments</td>
<td>Undocuspartan, African American/Black Student Success Center, MOSAIC Cross Cultural Center, Chicanx/Latinx Student Success Center, CCCAC</td>
<td>Sociology, Communication Studies, African American Studies, Chicana and Chicano Studies, and Asian Studies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ATHLETICS</th>
<th>STUDENT ORGANIZATIONS</th>
<th>FACULTY</th>
<th>ADMINISTRATION AND LEADERSHIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student-athlete scholarships, Sport Improvement funds</td>
<td>Girls Who Code Loop, Finance and Economics Women’s Club, Global Student Network, Native American Student Organization</td>
<td>Diversity Statement Guidelines for Faculty Applicants, IDEAS Program</td>
<td>ODEI, HR - Collective Bargaining, Equal Opportunity, Faculty Housing</td>
</tr>
</tbody>
</table>
Next Steps - Timeline

January: Questionnaire
- Office of Sustainability will send out questionnaire by end of January

February - July: Data Gathering
- Submission of written descriptions of programs and projects.

August - September: Editing
- Strategic Communication and Office of Sustainability to compile and edit report.

Fall 2022: Publication
- Publication of 2022 SJSU Sustainable Development Goals.

September - November: Impact Ranking
- Submit data for Impact Ranking 2023 for all SDG's.
Contact Information:

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United Nations Sustainable Development Goals: Trends and Opportunities

Jun Bando – Senior Advisor, Ca. Council on Science and Technology
Global Trends

United Nations Sustainable Development Goals: Trends and Opportunities
United Nations Sustainable Development Goals: Trends and Opportunities

U.S. Role and Trends

3. Good Health and Well-Being

10. Reduced Inequalities

8. Decent Work and Economic Growth

13. Climate Action

16. Peace, Justice and Strong Institutions
United Nations Sustainable Development Goals: Trends and Opportunities

Links to CA Priorities:

3. Good Health and Well-Being
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
10. Reduced Inequalities
13. Climate Action
16. Peace, Justice and Strong Institutions
United Nations Sustainable Development Goals: Trends and Opportunities

Opportunities

- National Governments
- Businesses
- Philanthropies
- Universities
- State Governments
- Local Governments
- International Organizations
- National Governments
- Nonprofit Organizations
University Opportunities

• Research
  • Assess needs/priorities of communities most impacted by implementation gaps
  • Design more inclusive, resilient, and sustainable communities
  • Develop new conceptual frameworks to describe SDG interdependencies
  • Compare implementation among countries and at different scales

• Education/Training
  • Embed SDG education across disciplines
  • Increase public awareness

• Implementation
  • Voluntary progress reviews (Carnegie Mellon)
  • Course catalog mapping to SDGs (University of Tennessee, Knoxville)
  • University strategic plan (Georgia Tech)
Thank you!

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Nutrition and Health Equity: The Role of Policies and Built Environments

Emma V. Sanchez–San Francisco State

Collaborators:
Brisa N Sánchez, Drexel University
Maria Acosta, SFSU
Mika Matsuzaki, John Hopkins University
Karen Petersen, University of Michigan
Ana Pelegrini, SFSU
Sahana Vasanth, SFSU
Jim Sallis, UCSD
Paula Braveman, UCSF

Funder: National Institutes of Health (NHLBI)
Overview/Background

• Can local, state and federal nutrition policies shape children’s health and reduce health disparities?
  • Nutrition environment: schools and communities near schools
  • → availability and quality of foods/drinks
  • → children’s diets and dietary behaviors
  • → health (healthy body weight)
• **State and federal policies** can improve nutrition
  • Standards for breakfasts and lunches
  • Standards for snacks/food, beverages sold to students (outside of school meals)
  • Limit availability of junk food and drinks
• California policies: regulate sugar, fat content of snacks; ban sodas/sugary beverages
• **Federal policy for school meals**
• **Health equity**: target low-income populations
• Junk food/drinks available in stores near schools can enhance/undermine nutrition efforts in schools
Nutrition and Health Equity

Activities

• *Prepare and merge* data sources for analyses
  • **Student data** collected in California public schools
  • **School characteristics**: school size; racial/ethnic composition of students
  • **Fast food outlets** and convenience stores near schools (¾ mile service areas)
  • **Census data**: income and education of residents in neighborhoods where schools are located

• Other data sources: Child data from the National Nutrition Examination Survey (NHANES)

• *Define variables*

• **Body weight**: BMI\(_z\) scores

• **Exposure to policy**: after federal policy (2015-2018) vs before (2007-2010)

• **School meal participation**: 0 days; 1 to 2 days; 3+ days

• **Restrict analyses** to children 5-17 years old who are eligible for free or reduced-price meals
Results

• Among children ages 5-17, who are eligible for free or reduced-price meals:
  • Breakfast participation associated with lower body weight among African American children
  • Evidence less clear among Latino children

<table>
<thead>
<tr>
<th></th>
<th>Breakfast</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-2 vs 0 Days</td>
<td>3+ vs 0 days</td>
<td></td>
</tr>
<tr>
<td>African Americans</td>
<td>-.682 (-1.23, -.125)</td>
<td>-.27 (-.64, .197)</td>
<td></td>
</tr>
<tr>
<td>Latinx</td>
<td>-.015 (-.467, .438)</td>
<td>.001 (-.285, .287)</td>
<td></td>
</tr>
<tr>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African Americans</td>
<td>-.643 (-1.29, .00)</td>
<td>.03 (-.387, .452)</td>
<td></td>
</tr>
<tr>
<td>Latinx</td>
<td>.068 (-.518, 1.129)</td>
<td>.15 (-.322, .622)</td>
<td></td>
</tr>
</tbody>
</table>

\(^\text{Adjusted for age, sex, nativity, education of the main caregiver and income. Data Source: National Nutrition Examination Survey 2007-2018}\)
Results

- Fast food restaurants near schools: disproportionate presence based on urban/rural locations, and income of residents in neighborhoods schools\(^\text{^1}\)
- Far more FFR near schools that serve more Latinx, African American and Asian students' low-income areas\(^\text{^1}\)

Implications/Lessons Learned

- Reasons for mixed findings among Latinx children are unclear
  - Diverse population
  - Different dietary patterns
- Data are cross sectional, lacks environmental variables
Next Steps/Long-Term Plans

• Investigate influences of both **policies** and **environments** on child health and disparities

• Examine co-benefits of policy and environmental factors e.g., academic outcomes
Summary

• Nutrition \rightarrow health *

• **Policies and interventions**--reach large numbers of children; implemented around the world

• Healthier **more equitable nutrition environments** can help narrow health disparities early in life

• Need to **examine policy/environment effects** specifically among sociodemographic subgroups: race/ethnicity, social class, gender and place

• **Improve nutrition** environments **everywhere**, particularly inside and near schools

*Willet and Stampfer 2013 *Annual Review of Public Health*
Contact Information:

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Email: emmav@sfsu.edu
Creating Institutions to Support SGD Progress: Quality Assurance for Off-Grid Solar Products

Arne Jacobson
Schatz Energy Research Center, Cal Poly Humboldt

Collaborating Organizations

Arne Jacobson, Professor
Cal Poly Humboldt, Schatz Energy Research Center
Arne.Jacobson@humboldt.edu
Environmentally Oriented Sustainable Development Goals

- Goals 6, 7, 11, 12, 13, 14, & 15 have a strong connection to the environment.
- The work I will discuss today relates especially to SDG7: Access to Affordable and Clean Energy.
Globally, about 760 million people lack access to grid electricity. This is about 10% of the world’s population.

Over ¾ of these people live in Sub Saharan Africa.

For many who lack access to electricity, off-grid solar has potential to provide an affordable near-term solution.

- Off-grid solar products include solar lanterns and solar kits that can power multiple lights and appliances.
Availability of poor-quality products is a barrier. Product certification to ensure quality can help address this issue.

- While good-quality solar products can improve energy access, low-quality products create frustration and can represent a significant financial loss for low-income people in off-grid areas.

- Product certification can help ensure quality and protect consumer interests, thereby enabling more widespread deployment.

“I hate solar, it doesn’t work…”
- Kenyan solar user who had purchased a low-quality product
VeraSol is a Quality Assurance Program for Off-Grid Solar Products for Residential and Small Business Applications

- Working with partners, our team at the Schatz Energy Research Center helped develop and implement a product certification program for off-grid solar products. The program was launched in 2009 as part of the World Bank Group’s Lighting Global initiative.

- In 2020, the program name was changed to VeraSol. The Schatz Center, working in collaboration with CLASP, operates the VeraSol product certification program.
Programs like VeraSol support SDG7 by creating institutions to protect consumers and support the deployment of good-quality solar products.

- Since 2009, over 55 million solar products that were certified through the program have been sold globally. These products have helped improve energy access for over 100 million people.
Thank you!

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Director, Schatz Energy Research Center
Technical Lead, VeraSol
Cal Poly Humboldt
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United Nation's Sustainable Development Goals (SDG)

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Next Steps/Closing Remarks

Dr. Frank A. Gomez
Executive Director, STEM-NET
Office of the Chancellor

https://www2.calstate.edu/impact-of-the-csu/research/stem-net

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Webcast Feedback Survey

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Use the QR Scan Code to download it
STEM-NET May Webcast
Topic: NSF EHR Core Research (ECR) Program and CSU Grantees Webcast
Date: Friday, May 20, 2022
Time: 10am-11:30am

Virtual Research Café 10.0
Date: Wednesday, May 18th, 2022
Time: 11am-12pm
Join our CSU STEM-NET Community listserv

csustemnet@lists.calstate.edu

Begin a Conversation with Colleagues and Join our Private CSU STEM-NET Facebook Group

https://www.facebook.com/groups/2629611737269292
THANK YOU FOR JOINING US TODAY!
For more information about STEM-NET visit our website:

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