



Solar Energy | Water | Environment

# CI Event Day

## May 2, 2017

### UNLV

## Opening Remarks

Shahram Latifi, UNLV CI Lead  
Professor of Electrical & Computer  
Engineering



# Nexus

## Overview of the Nexus Project

### The Solar Energy-Water-Environment Nexus in Nevada

- Funded by NSF
- Period 2013-2018
- Involving NSHE Units
- PI- Dr. Gayle Dana, DRI
- Co-PIs:
  - Dr. Jaci Batista, UNLV
  - Dr. Marcus Berli, DRI
  - Dr. Robert Boehm, UNLV
  - Dr. Sergiu Dascalu, UNR

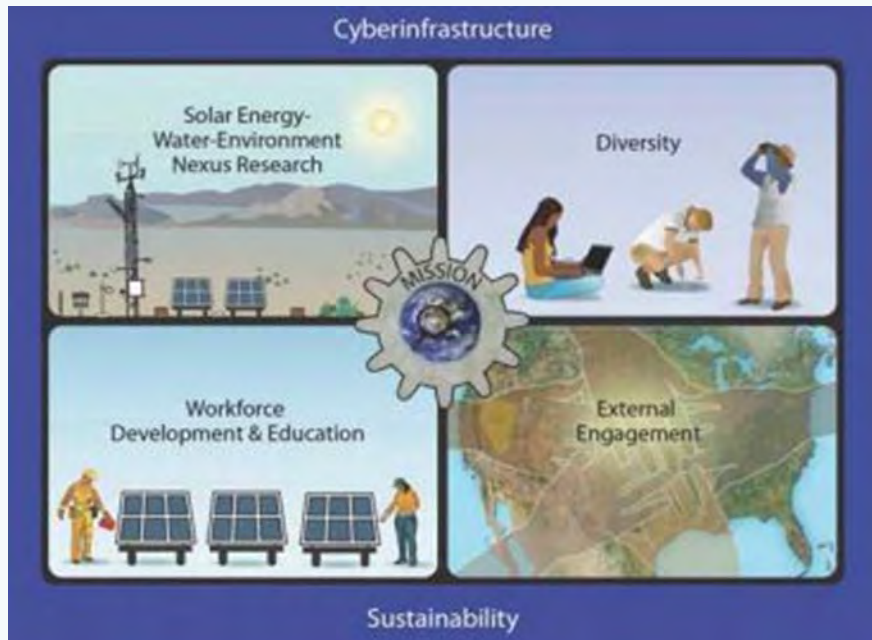


# Nexus

IN NEVADA

## Nexus Mission

- Advance knowledge in Solar Energy Generation and Impacts
- Perform Research in related Water Issues
- Develop New Capabilities in Cyber Infrastructure (CI)





## **CI Mission**

- Develop Cutting-edge Technologies to Improve Research and Education in Nevada
- CI efforts involve hardware, software, data curation and interdisciplinary research



# CI Researchers

- Dr. Sergiu Dascalu, Co-PI
- Dr. Fred Harris, UNR Lead
- Dr. Shahram Latifi, UNLV Lead
- Mr. Eric Fritzing, UNR
- Dr. Mehmet Gunes, UNR
- Dr. Yingtao Jiang, UNLV
- Dr. Juyeon Jo, UNLV
- Dr. Yoohwan Kim, UNLV
- Dr. Suchil Louis, UNR
- Dr. Rajat Mehrotra, DRI
- Dr. Scotty Strachan, UNR
- Dr. Yaakov Varol, UNLV
- Dr. Lei Yang, UNR
- Dr. Mei Yang, UNLV



# CI Organizers

- Michele Casella, Education, Outreach and Diversity, NSHE
- Althea Sheets, Communications Specialist, NSHE
- Molly Marks, Special Events, College of Eng., UNLV
- Mayara Cueto-Diaz, NSF EPSCoR, NSHE
- Maura Erickson, Admin Assistant IV, College of Eng., UNLV

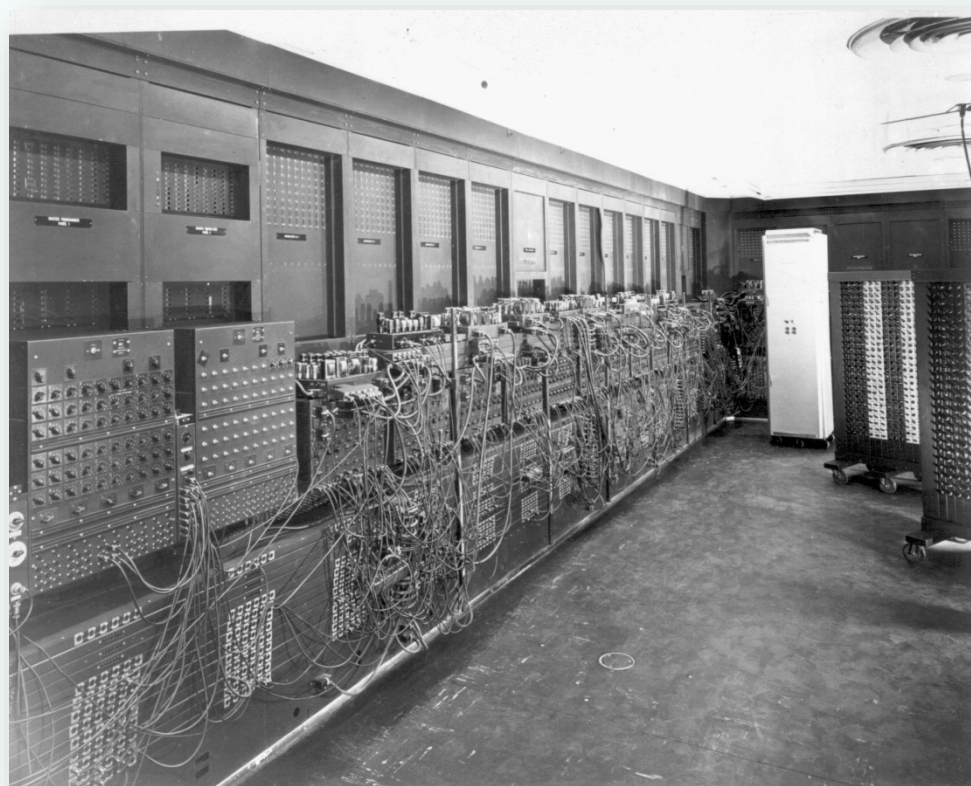
# Electronic Numerical Integrator And Computer (ENIAC)

ENIAC (1946):

- Weight: 25 tons
- 5,000 instructions per second

iPhone 6 (2014):

- Weight: 4.5 oz
- 25 billion instructions per second



# Why Major in Computing?

1. **Computing is part of everything we do!**
2. **Expertise in computing enables you to solve complex, challenging problems.**
3. **Computing enables you to make a positive difference in the world.**
4. **Computing offers many types of lucrative careers.**
5. **Computing jobs are here to stay, regardless of where you are located.**
6. **Expertise in computing helps you even if your primary career choice is something else.**
7. **Computing offers great opportunities for true creativity and innovativeness.**
8. **Computing has space for both collaborative work and individual effort.**
9. **Computing is an essential part of well-rounded academic preparation.**
10. **Future opportunities in computing are without boundaries.**





# Cool Projects

## **Computer Vision:**

*Robot and Computer Vision using Raspberry Pi, Image Crawlers-Search Engines*

## **Image Processing:**

*Image smoothing, denoising, filtering, deblurring, whitening*

## **Computational Photography:**

*Video Abstraction, Instagram (special effect) filtering*

## **Natural Language Processing:**

*Sentiment analysis using data from Twitter and Yelp*

## **Machine Learning:**

*Support Vector Machines, Neural Networks, Deep Learning*



# CI Day Agenda

Tuesday, May 2, 2017

Tuesday, May 2, 2017			
10:00 – 10:15	Opening Remarks: Concept of Cyberinfrastructure, Dr. Shahram Latifi, Electrical & Computer Engineering, UNLV		
10:15 – 11:00	History of Computers, Dr. Sarah Harris, Electrical & Computer Engineering, UNLV		
11:00 – 11:15	Coffee Break		
11:15 – 11:50	Overview of Nevada Research Data Center (NRDC), Vinh Le & Connor Scully-Allison, Computer Science & Engineering, UNR		
11:50 – 12:50	Lunch/ Posters by Nexus CI Graduate Students		
Interactive Sessions	Python Software Drs. Mei Yang & Yingtao Jiang	Raspberry Pie Dr. Shahram Latifi	Computer Security Dr. Yoohwan Kim
1:00 – 1:30	Group 1 (Red)	Group 2 (Blue)	Group 3 (Green)
1:30 – 2:00	Group 2 (Blue)	Group 3 (Green)	Group 1 (Red)
2:00 – 2:30	Group 3 (Green)	Group 1 (Red)	Group 2 (Blue)
2:30 – 2:50	EPSCoR Outreach and Future Opportunities/Nevada STEM Mentor Network, Michele Casella, Nevada System of Higher Education, EPSCoR Office		
2:50 – 3:00	Evaluation and Event Conclusion		