

# Welcome to SDSU



# SDSU

## College of Engineering

# Aerospace Engineering

## Master of Science program (MSAE)

### An Introduction to the AE Faculty



**Come join us!** The Aerospace Engineering Department at San Diego State University is interested in attracting talented students to our M.S. and Ph.D. degree programs offering specializations in aerodynamics, astrodynamics/ guidance and control, and structural mechanics. Our graduate programs through rigorous and innovative curriculum and high impact research experiences educate students to become the next generation of leaders in Aerospace Engineering.

Our faculty expertise includes aerodynamics, fluid mechanics, propulsion, structural mechanics, aeroelasticity, nondestructive evaluation, aerospace design, guidance and control, astrodynamics, mission analysis and systems Design. The proximity and the strong ties of our faculty to the local aerospace industry provide opportunities for students to interact with industry and to work on real life problems. Our Master's degree course offerings and scheduling is also optimal for working engineers.

#### **Program highlights:**

- Well-recognized graduate program
- Distinguished faculty
- State-of-the-art research facilities
- Close connections with aerospace industry and national labs

**Funding Agencies:** NASA, AFOSR, ONR, US Army, NSF, DoE, FAA and a variety of industrial sponsors.

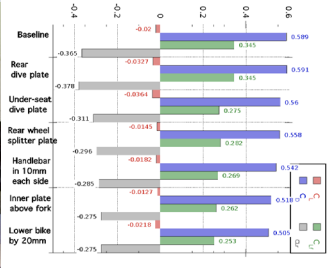
**About San Diego:** San Diego, located on the Pacific Coast of Southern California, enjoys year-round good weather. The diverse population offers multicultural experiences and a cosmopolitan living experience. San Diego is also home to many engineering and high-tech companies, including Northrop Grumman, General Atomics, Lockheed Martin, Solar Turbines, Boeing, ViaSat, United Technologies Aerospace Systems, US Naval Air Systems Command and over 200 small companies that contribute to unmanned systems and space systems.



## Joseph Katz

Professor  
Expertise: Fluid  
Mechanics,  
Aerodynamics  
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jkatz@mail.sdsu.edu

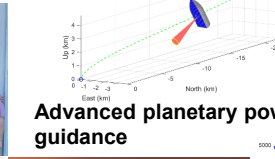
<https://aerospace.sdsu.edu/faculty/josephKatz>



## Ping Lu

Professor and Chair  
Guidance and Control,  
Aerospace Autonomy  
Email: plu@sdsu.edu

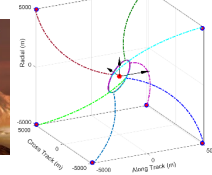
Prof. Lu's research group of undergraduate, MS and PhD students in the Computational Guidance and Control



### Advanced planetary powered descent guidance



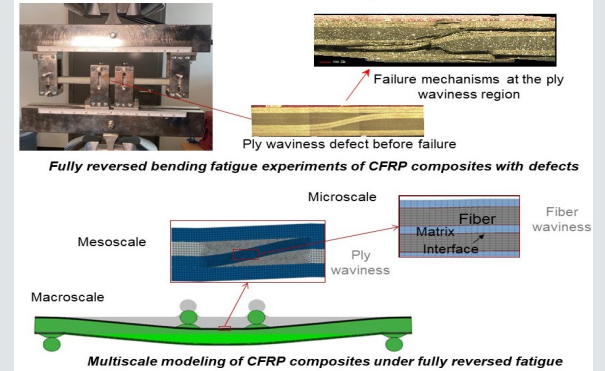
Advanced Entry and Powered Descent Guidance for Human-Scale Mars Mission (Sponsor: NASA)



## Satchi Venkataraman

Professor  
Aerospace Structures,  
Composite Materials,  
and Design Optimization  
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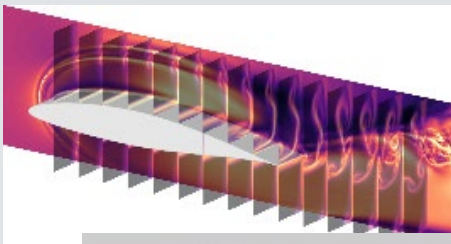
<http://engineering.sdsu.edu/~satchi/>



## Gustaaf (Guus) Jacobs

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Computational Fluid  
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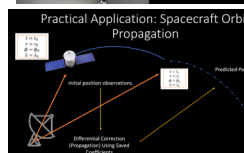
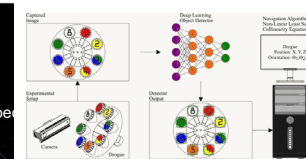
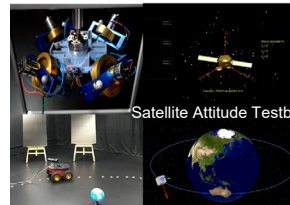
Unsteady Simulation of Flow in Propulsion Systems



## Ahmad Bani-Younes

Associate Professor  
Astrodynamics,  
Spacecraft Guidance  
Navigation and Control  
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Lab webpage: <https://space.sdsu.edu>



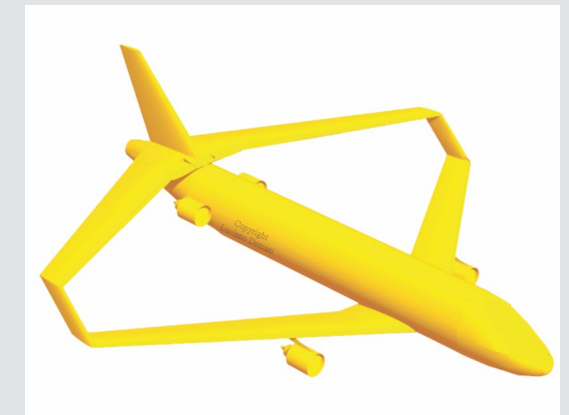
Spacecraft Platform for Astronautics and Celestial Emulation



## Luciano Demasi

Professor  
Expertise: Aerospace  
Structures, Aeroelasticity  
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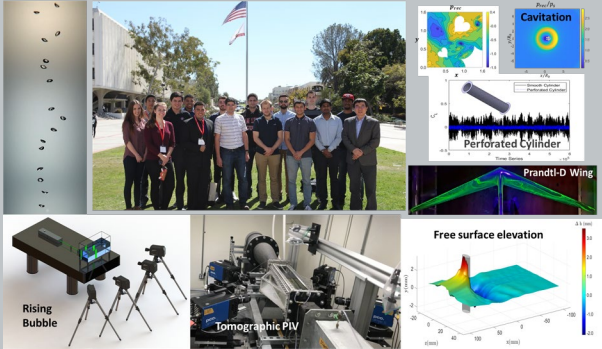
<https://aerospace.sdsu.edu/faculty/lucianoDemasi>





**Xiaofeng Liu**  
Associate Professor  
Experimental Fluid  
Dynamics, Aerodynamics  
and Multiphase Flow  
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Lab webpage: <http://liu.sdsu.edu>

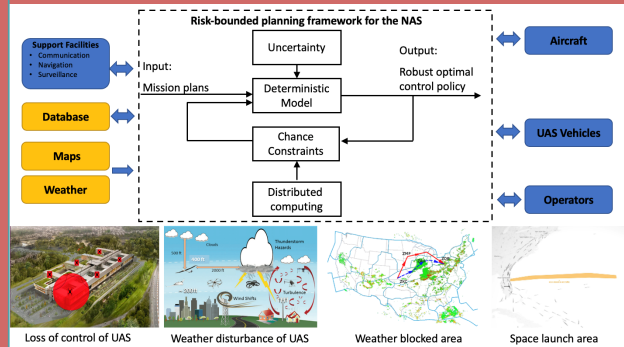


Laboratory of Advanced Experimental Fluid Dynamics

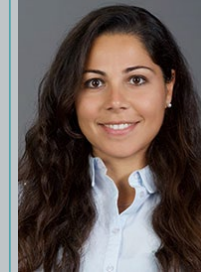


**Jun Chen**  
Assistant Professor  
Dynamics, Control, and  
Optimization for large-  
scale networked  
dynamical systems  
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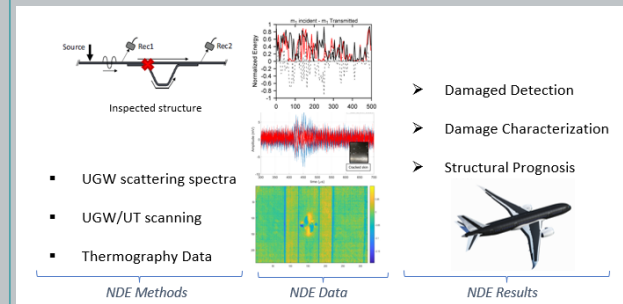
Lab webpage: <https://junchen.sdsu.edu/>



Autonomy & Control for Intelligent Air Transportation



**Margherita Capriotti**  
Assistant Professor  
Non-destructive evaluation  
techniques, ultrasonic guided  
wave (UGW) propagation  
and scattering, composite  
structures and biomedical  
applications  
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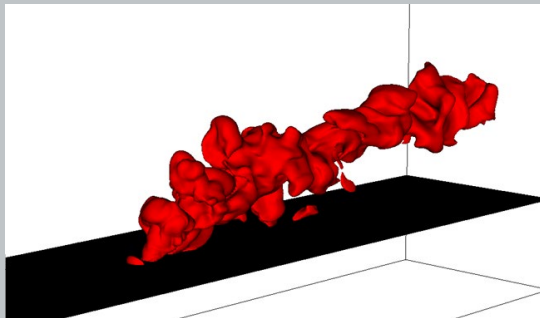


Non-Destructive Evaluation (NDE) database  
and analysis for damage characterization



**Pavel Popov**  
Assistant Professor  
CFD, Propulsion,  
Plasma-combustion  
interactions  
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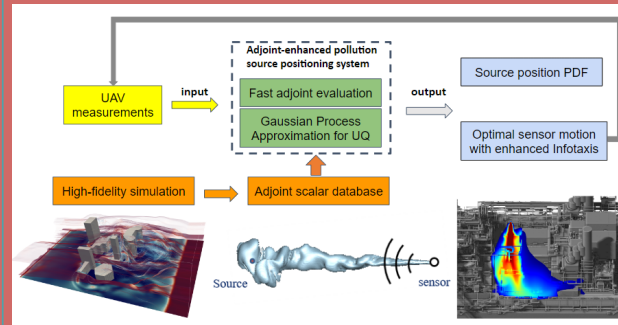


Visualization of a turbulent hydrogen jet in air crossflow



**Qi Wang**  
Assistant Professor  
Aerodynamics, Fluid  
Mechanics  
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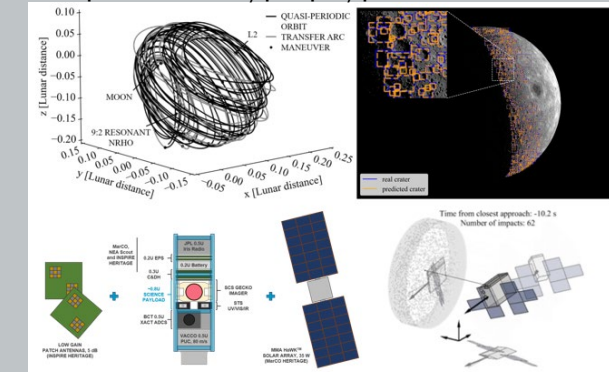


Big-data strategy for fast pollution tracking



**Pablo Machuca**  
Visiting Assistant Professor  
Expertise: Astrodynamics,  
Autonomous GNC, Mission  
Analysis, Systems Design  
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Trajectory Design, Autonomous Optical Navigation, CubeSat  
Systems Design, and GNC

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