

2018 PRE-COLLEGE CONFERENCE



CLEVELAND, OH  NOVEMBER 7-11

SHPE2018 Better Together
NATIONAL CONVENTION

W E L C O M E

WELCOME TO THE 2018 SHPE PRE-COLLEGE CONFERENCE!

Today we hope to motivate you to excel in your current academic journey, reach new collegiate aspirations and explore Science, Technology, Engineering, and Math (STEM) related careers.

This year, you will interact directly with STEM professionals and current college students. We will engage your minds with engineering activities hosted by The Boeing Company, Navy Civilian Careers, Rockwell Automation, U.S. Army and SHPE.

WE HOPE YOU HAVE AN AMAZING DAY!

Sincerely,
2018 SHPE Pre-College Conference Committee

JOIN SHPE

SHPE Jr. Chapters provide high school students with opportunities to participate in hands-on STEM activities, receive mentorship, and experience STEM firsthand at a participating local university or museum. Members are also eligible to participate in academic and engineering summer camps, compete in National Science Bowls, participate in local science fairs, and engage with SHPE Student and Professional chapters.

To learn more about how to start or join a SHPE Jr. chapter, contact programs@shpe.org.

SHPE National Office

13181 Crossroads Parkway North Suite 450
City of Industry, CA 91746
www.shpe.org

Presented by SHPE and the following Partners and Sponsors:



Washkewicz College
of Engineering



NOTES

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

HIGH SCHOOL PROGRAM

Cleveland Public Auditorium
Friday, November 9, 2018

	Workshops				
Time	1	2	3	4	5
8:30 am - 9:20 am (50 min)	Registration/Breakfast				
	Lower Level Foyer				
9:20 am - 10:05 am (45 min)	Welcome				
	LL10A/B				
10:15 am - 11:05 am (50 min)	Boeing - The Future Is Built Here	U.S. Army - Learning How to Lead from the Nation's Largest Team: The U.S. Army Reserve	SHPE - Truth About College	NAVSEA - Electrical Circuits	SHPE - Labyrinth
	LL05A	LL02	LL08	LL05B	Grand Reception
11:10 am - 12:00 pm (50 min)	Boeing - The Future Is Built Here	U.S. Army - Learning How to Lead from the Nation's Largest Team: The U.S. Army Reserve	SHPE - Truth About College	NAVSEA - Electrical Circuits	SHPE - Labyrinth
	LL05A	LL02	LL08	LL05B	Grand Reception
12:05 pm - 1:00 pm (55 min)	Lunch				
	LL10A/B				
1:05 pm - 1:55 pm (50 min)	Boeing - The Future Is Built Here	U.S. Army - Learning How to Lead from the Nation's Largest Team: The U.S. Army Reserve	SHPE - Truth About College	NAVSEA - Electrical Circuits	SHPE - Labyrinth
	LL05A	LL02	LL08	LL05B	Grand Reception
2:00 pm - 2:50 pm (50 min)	Boeing - The Future Is Built Here	U.S. Army - Learning How to Lead from the Nation's Largest Team: The U.S. Army Reserve	SHPE - Truth About College	NAVSEA - Electrical Circuits	SHPE - Labyrinth
	LL05A	LL02	LL08	LL05B	Grand Reception
2:55 pm - 3:45 pm (50 min)	Boeing - The Future Is Built Here	U.S. Army - Learning How to Lead from the Nation's Largest Team: The U.S. Army Reserve	SHPE - Truth About College	NAVSEA - Electrical Circuits	SHPE - Labyrinth
	LL05A	LL02	LL08	LL05B	Grand Reception
3:50 pm - 4:30 pm (40 min)	Closing				
	LL10A/B				

Key

- Group 1
- Group 2
- Group 3
- Group 4
- Group 5

HIGH SCHOOL WORKSHOPS

The Future Is Built Here

THE BOEING COMPANY

“If you build it, they will come.” Did you ever wonder how Boeing is able to build the incredible machines that it does? Are you ready to be challenged in a hands-on project that will test your creativity, engineering, and communication skills? In this session, a team of Boeing engineers will guide you through a fun project that illustrates how The Boeing Company leverages the skills of different teams to build everything from commercial airplanes to the next generation of manned spacecraft. So, ready, set, build!

Learning How to Lead from the Nation’s Largest Team: The U.S. Army Reserve

U.S. ARMY

Leadership development is self-development. In this workshop, the U.S. Army will explore core leadership concepts, analyze leadership challenges, and teach students how to apply these concepts to achieve success on both personal and professional levels.

Truth About College

SHPE

Find out what it is really like to be a college student. This highly interactive session connects undergraduate students with high school students to facilitate candid and open conversations about college life. The session will be in a moderated round table format where high school students will interact with a college student.

Electrical Circuits

NAVSEA

Students will be making a Bristlebot. During the project, students will learn about electrical circuits, including open/closed circuits, conductive/insulative properties and flow of electricity. For this project specifically, students may learn about center of mass, drag and/or friction depending on how their project is designed. This project highlights engineering, electricians and electronics techs.

Labyrinth

SHPE

Whether you are a student, a parent or an engineer, you face problems every day that need solving. This activity aims to challenge teams of students to work together to all find their way through a maze while facing everyday obstacles. The objective is to get the students thinking about the importance of communication and teamwork and draw parallels between the activity and their real life experiences while having fun!

ENGINEERING DESIGN CHALLENGE

Cleveland State University Student Center
Saturday, November 10, 2018

Time	1	2	3	4
8:30 am - 9:00 am (30 min)	Registration/Breakfast			
	Ballrooms C & D			
9:00 am - 9:55 am (55 min)	Welcome and Competition Open			
	Ballrooms C & D			
10:00 am - 10:25 am (25 min)	Technical Managers	Company Managers	Marketing Managers	Financial Managers
	Ballrooms C & D	Ballroom A	Ballroom B	RM 313/315
10:30 am - 11:45 am (75 min)	Design Session			
	Ballrooms C & D			
12:00 pm - 12:45 pm (45 min)	Lunch			
	Ballrooms C & D			
1:00 pm - 1:25 pm (25 min)	Technical Managers	Company Managers	Marketing Managers	Financial Managers
	Ballrooms C & D	Ballroom A	Ballroom B	RM 313/315
1:30 pm - 2:55 pm (75 min)	Design Session			
	Ballrooms C & D			
3:00 pm-3:40 pm (40 min)	Competition Close and Evaluations			
	Ballrooms C & D			
3:45 pm-4:45 pm (60 min)	Campus Tour			
	Ballrooms C & D			

ABOUT THE DESIGN CHALLENGE

The Engineering Design Challenge will give students the opportunity to become entrepreneurs for a day. In the course of designing a product and pitching their company, students will learn and implement valuable skills needed to successfully manage a project and work within a structured team.

A grayscale photograph of three students, two men and one woman, sitting at a desk and working on a laptop. The student in the middle is holding a small electronic component, possibly a circuit board, and looking at it intently. The student on the left is looking at the laptop screen, and the student on the right is also looking at the screen. The background is slightly blurred, showing other students and classroom equipment.

Rockwell Automation

We would like to thank Rockwell
Automation for their contribution
as this year's sponsor of the
Engineering Design Challenge.

**A SPECIAL THANK YOU TO ALL OUR 2018 SHPE
PRE-COLLEGE CONFERENCE SPONSORS AND PARTNERS**

HIGH SCHOOL PROGRAM WORKSHOP/HANDS-ON ACTIVITY SPONSORS

The Boeing Company

Navy Civilian Careers

U.S. Army

HIGH SCHOOL PROGRAM BAG SPONSOR

Nordson Corporation

ENGINEERING DESIGN CHALLENGE SPONSOR

Rockwell Automation

ENGINEERING DESIGN CHALLENGE UNIVERSITY HOST

Cleveland State University Washkewicz College of Engineering

A SPECIAL THANK YOU TO THE 2018 SHPE PRE-COLLEGE CONFERENCE COMMITTEE

Elicia Magaña, Pre-College Conference Lead

Victor Cervantes, Captain

Renata Revelo, Ph.D., Evaluations Chair

Belix Ortiz, Special Events Chair

Joanna Nieske, Registration and Outreach Chair

HIGH SCHOOL PROGRAM

Karolyn Saenz, High School Programming Co-Chair

Joe Martinez, High School Programming Co-Chair

Denise Salinas, High School Programming Co-Chair

ENGINEERING DESIGN CHALLENGE

Juan Valentin, Engineering Design Challenge Co-Chair

Nicole Ortega, Engineering Design Challenge Co-Chair

Matthew Alonso, Ph.D., Engineering Design Challenge Co-Chair



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