"There are a lot of problems with solar energy... but that's why students attend Rose to solve problems."

he began by stating that the rest of what he was about to say would be based on the assumption that the power grid is still here in the near future.

Despite my initial hesitation, Mr. Conrad kept the overarching theme of the talk accessible to even the most uneducated students in the area of renewable energy.

A majority of the talk was spent addressing some of the implications and flaws with solar energy.

For example, solar is very popular in areas like the Midwest. As any Midwesterner or Rose student should know, one day we can have clear skies with a high of 70 degrees and the next a miserably overcast day of 60 degrees with intermittent sheets of face-slapping rain.

Th,ough Davis was wounded, he ignored warn-

ings to take cover, eventually cutting a hole in the wall, howitzer and firing shells from inside.

Even though Davis could not swim because of a broken back, he crossed a river on an air mattress in order to rescue three wounded American soldiers. The battle lasted two hours in total.

Davis was promoted to sergeant, and President Lyndon B. Johnson presented him with the Medal of Honor in 1967.

Sgt. Sammy L. Davis receiving the Medal of Honor from President Lyndon B. Johnson in 1967.

Photo Courtesy of Pritzker Military Museum & Library
Our Mission Statement:
We are Rose-Hulman's independent student newspaper. We keep the Rose-Hulman community informed by providing an accurate and dependable source for news and information.

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ISSUES of The Rose Thorn are published on the second through ninth Mondays of each academic quarter.

Our mission is to serve the Rose-Hulman community by providing an accurate and dependable source for news and information.

REVIEWS of articles, photographs, art, and letters to the editor are encouraged. Submission may be made by email to thorn@rose-hulman.edu.

THE RIGHTS to accept submissions or changes made after the deadline, to edit submissions in so far as the original intent of the submission remains unaltered, and to reject submissions deemed inappropriate for print are reserved by the editors.

LETTERS TO THE EDITOR should be no longer than 600 words in length and must contain the writer’s (electronic) signature.

THE VIEWS EXPRESSED herein are those of their respective authors and with the exception of the Staff View do not necessarily represent the views of the staff or the Rose-Hulman community.
WAVE POWER TALK

The oceans have large amounts of energy that can be harvested through wave energy converters.

Photo Courtesy of Kester Gunn, Clym Stock-Williams

Marc Schmitt
Editor-in-Chief

On Thursday, January 25, the Rose-Holman community had the opportunity to learn about ocean energy from a Rose-alum.

The Rose-Holman '17 tops works at Sandia National Laboratories researching ocean renewable energy technologies within the Department of Energy (DOE) Energy Efforts. Before joining Sandia, Ruehl got her M.S. in Mechanical Engineering from Oregon State University, with a focus on renewable energy and ocean wave energy. Ruehl and her colleagues are researching ways in which renewable ocean energy can be harvested in a sustainable fashion.

Speaking to students, faculty, and staff, Ruehl introduced the field of wave energy. Of the types of renewable energy, such as wind and solar energy, ocean wave energy is relatively underdeveloped. One reason is the extreme variety of wave types and conditions making it more difficult to harvest. Ruehl showed how Wave Energy Converters (WECS) must be designed for their specific environment, but solar panels and wind turbines can generally work in many different locations with few external modifications.

Because wave energy is generated by something different, different wave profiles yield wildly different designs. Ruehl pulled out an excellent example one for wind energy converters and another for wave energy converters. The homogeneity of wind turblites juxtaposed to the variety of WECS highlights her fear that harvesting ocean wave energy requires many more designs. Ruehl also emphasized how WECS' variety reflected the relative immaturity of the discipline, whereas wind, which has been more commercially exploited, has the most effective designs. Another large factor that affects WECS design is the water depth at its deployment location. Water depth heavily impacts the energy content available and the flow of wave particles. Shallow water contains lots of energy whereas energy content drops off exponentially in deep water.

This means that a WECS designed to operate in shallow waters, where it may rest on the ocean floor, is incapable of working in medium to deep waters, and vice versa.

That does not mean there is little potential for the field of research; there is an estimated 2 terawatts of energy contained within ocean waves. The West Coast of the United States is not the only area where ocean energy is a possibility, particularly well-suited to tap into this natural resource. According to the Pacific Northwest Research Institute, the Pacific Northwest and Alaska are estimated to have a combined 250 TWh/year of ocean wave energy, which is enough to cover roughly one-quarter of the total electricity consumption in the United States.

Scientists have turned to computer modeling to study wave energy converters and ocean wave energy. The ocean is a complex environment that is difficult to model, with many different phenomena occurring and interacting with each other. Models attempt to mathematically quantify these phenomena, which can then be evaluated. A computer model can be determined and WECS be designed to best collect the energy.

As part of her work at Sandia, Ruehl has been researching the WECS-8m and SNL-SWAN open-source software modeling projects. These pieces of software specifically look to model WECS in their respective areas.

To get the necessary data, scientists rely on networks of buoys that collect real-time in situ data, which can be modeled across the globe. Once the data is collected, researchers like Ruehl perform spectral analysis of the wave profile. They look at the direction and intensity of incoming waves to determine the most optimal location for the system. Ruehl noted such networks in the United States, the National Data Buoy Center, which is run by the National Oceanic and Atmospheric Administration, and the Coastal Data Information Program, which is run by the University of California at San Diego. Such databases are available to the public.

Taking a step back, Ruehl spoke about recent trends in renewable energy. She noted the high growth in wind and offshore electricity generation in the US, which has increased by more than half of new capacity in the last three years. She emphasized that the push in the United States continue to focus on integrating renewable energy into the grid, which could include ocean wave energy.
The Last Jedi
The Saga Continues

Lifestyle Editor

At around the end of this last year the 8th installment of the official Star Wars canon was released. This movie continued from where The Force Awakens ended with Rey meeting Luke on a distant planet and the rest of the Resistance trying their best to escape the First Order. This movie was directed by Rian Johnson who is known for Looper and directing various episodes of Breaking Bad.

The Last Jedi has a full returning cast with main characters Rey, Finn, and Poe Dameron joined by many minor characters for a classic Star Wars film. Having said this, Star Wars Episode 8 The Last Jedi was met with some of the most polarizing reviews of an official Star Wars media to this date.

In my eyes, The Last Jedi has all the potential of any Star Wars film to date fulfilling the formula that has made them so great for so many years. A-list actors alongside extremely talented newcomers, the pinnacle of special effects, a compelling two sided story of “the good guys vs the bad guys,” and a very conflicted main character. These were all present, but in the end the movie fell flat.

The Last Jedi is a jumbled movie that tries to do too much with what it was given. There are three main stories in the movie. One shows Rey’s journey after she finds Luke, another follows the protagonists trying to escape the clutches of The First Order, and the third is a side plot with two lesser main characters. What angers me is that only one of these plots actually affected the movie in any significant way, so the other two were there for no compelling reason. One can only hope they serve as exposition for a future movie, even though The Force Awakens did this more effectively. It did not beat around the bush, instead making every scene critical and keeping both moviegoers and Star Wars fans alike captivated for every second.

Another shortcoming of the movie that I cannot ignore is its treatment of space physics. There is a scene in the beginning of the movie where they dropped bombs on an enemy ship, and lightsabers! Choices! Foreshadowing! Excitement! Another shortcoming of the movie that I cannot ignore is its treatment of space physics. There is a scene in the beginning of the movie where they dropped bombs on an enemy ship, and another where they dropped bombs on an enemy planet and the rest of the Resistance trying their best to escape the First Order.

At the end of the day, I rate this movie a 2.5 Angry The Force Awakens-Kylo Ren Tantrums out of 5.

Sneak Break

Duul Bima

Staff Writer

“The Last Jedi” has all the potential of any Star Wars film to date, fulfilling the formula that has made them so great for so many years.”

In my eyes, “The Last Jedi” has all the potential of any Star Wars film to date, fulfilling the formula that has made them so great for so many years.”

If you are looking for a mystery crime thriller, where reality becomes more flexible and every detail you pay attention to rewards you with meaningful and purposeful action, this is definitely the movie for you.

Although the movie is in Spanish and you will probably have to turn on subtitles if you do not speak the language, it definitely did not take away how engaged you become while watching. Every actor and actress in this movie has done an amazing job with their characters, bringing their roles so close to the viewer you forget that you have been ticked away with the clock waiting for this storyline to come together. Very rewarding to watch.

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Waking up next to his lover’s corpse in a locked hotel room far away from his house, Adrián Doris’s perfect life starts to perish as he tries to defend his case with the help of a witness preparation expert, Virginia Goodhe. After being arrested by the police as the killer, Adrián talks to Virginia about the story, and how he was framed into this crime. That is when the story leads you back to a car crash that Adrián and Laura had three months ago that resulted in killing a teenager, Daniel Garrido.

Adrián has 186 minutes to convince Virginia that he is not the killer, as the time ticks away; the story gets clearer yet more ambiguous. As the viewer, you get more attracted to the storyline, waiting for all these scattered details to come along to form the bigger explanation to what has happened during these three months that lead Adrián and Laura’s corpse to that room in the isolated hotel.

If you are looking for a mystery crime thriller, where reality becomes more flexible and every detail you pay attention to rewards you with meaningful and purposeful action, this is definitely the movie for you. The movie continues to reveal more plots as you keep watching, every time you think you figured out a solution, a new detail is revealed. Finally, it takes away how engaged you become while watching. Every actor and actress in this movie has done an amazing job with their characters, bringing their roles so close to the viewer you forget that you have been ticked away with the clock waiting for this storyline to come together. Very rewarding to watch.

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Fashion Tech
What happens engineering meets artistic design?

Last weekend I got the opportunity to attend the 5th annual Fashion Tech Hackathon at Kent State University. Although it is presented by Major League Hacking, this hackathon was unlike any other that I have seen or heard about. This Hackathon is run by The Fashion School at Kent State University and invites the traditional hackathon goers to team up with fashion designers and create the next generation of wearable technology and changing the shopping experience. Instead of giving away a first second and third place prize they put each project into one of four groups -- best design, best new technology, the best extension of a pre-existing technology, and best change to the shopping experience.

Walking into this I honestly still did not know what to expect. Things did not start well when a chart at opening ceremonies showing the schools everyone was from left Rose off the list. I believe the representative from Major League Hacking being from Purdue had something to do with it. Nonetheless, we were then given the opportunity to network and meet one another and come up with an idea for our project.

Once I had met them, my team and I decided to try for the best extension of a pre-existing technology. After some brainstorming and a quick google to make sure no one had already made it, we decided to make a wireless charging enabled jacket that would allow the wearer to charge their Qi-enabled device simply by placing their phone in their pocket. Instead of just adapting a pre-existing jacket, the fashion students that I was teamed with Olivia Kissinger and Deidra Dunagin made a fully lined jacket, pictured here, from scratch overnight. Needless to say, I was completely astounded. People in our category made everything from other jackets that had an emergency panic button hidden within the pocket to a purse that lit up whenever the wearer got a text message.

Overall, I highly recommend all Rose-Hulman hackers to add this event to their calendar next year because it allows you to break out of the traditional constraints of a hackathon while exploring completely new. As one of my team members, Olivia, put it, “More Rose-Hulman nerds should come so they can help the fashion majors make cool stuff.” And isn’t the whole point of a hackathon to have fun and make some cool stuff? As an added plus if there is more than one of us the Purdue organizer cannot ignore us.

Would recommend 10/10 Raspberry Pis.

Upcoming Concerts in Indianapolis
Let's Go Have Some Fun!

Feb-6 Poppy
Feb-9 Alan Jackson
Feb-10 Filmore
Feb-10 Brockhampton
Feb-11 We were Sharks
Feb-14 The Letterman
Feb-14 Ladies night Out
Feb-15 Excision
Feb-17 Led Zeppelin 2 (A Led Zeppelin Tribute band)
Feb-18 Indiana Wind Symphony
Feb-18 Big Wild
Feb-20 Steve Aoki
Feb-23 Ying Yang Twins
Mar-7 Screaming Females (21+)
Mar-8 Black Tiger Sex Machine
Mar-8 Big Daddy Wave
Mar-9 Bigger Than Elvis
Mar-10 Craig Morgan
Mar-10 Nothing Nowhere
Mar-11 Ty Dolla Sign
They are not trying to make Rose a better place, just more Feminist.

It’s your opinion. Share it!

Submit via: goo.gl/bqLbeA

Whenever discussion turns to implementation of desired changes, the consensus is almost always to have the institution do it.

“They have concluded that everything wrong with the world is the result of social constructs.”

At point I had tried to suggest that people do not like to be overwhelmed and that they want to organize events focused on dialogue, they seek to screen all of the participants beforehand to ensure that their ideas and opinions are presented in a way that they are not perceived as threatening. They are ideologues who do not fully understand the nature and ramifications of what they are supporting and which ideas are supported and which are not.
Sports

Blake Powell
Sports Editor

Rose-Hulman topped ten top-five finishes, which included four runner-up performances, at the Rock Select Indoor and Track Meet at Illinois Wesleyan University on Saturday afternoon. Josh Hennig led the Fighting Engineers with two top-three finishes. Hennig came home second in the 400 meters and placed third in the 200 meters.

Other runner-up finishers included David Gudkov in the triple jump, Matt Hill in the 3,000-meter run, and Nick Palmer in the pole vault.

Taylon Settina paced the women’s team performance with a fourth-place finish in the high jump. Alson Anspach added another fourth-place finish with a strong performance in the 3,000-meter run.

Men’s Basketball

The Rose-Hulman men’s team beat Bluffton University on Saturday afternoon in a 83-75 battle. The Fightin Engineers relied on a 19-point deficit in the second half, which lead to the Fightin Engineers taking the lead on Wednesday night with their victory over Hanover.

The victory was Rose-Hulman’s nineteenth win in their past fourteen games.

Standout Performers

Craig McGee – 20 points, 9 assists, and 6 rebounds
Ryuji Aoki – 14 points, 4 rebounds, and 1 assist

RHI Sports Box Scores

In addition, the victory allowed the team to keep their one-game lead in the HCAC with their 12-7 record. Rose-Hulman improved to 14-7 after starting the season 6-5.

The victory was Rose-Hulman’s nineteenth win in their past fourteen games.

Standout Performers

Taylor Graham – 16 points, 6 rebounds, and 2 assists
Lindsey Fagerberg – 30 points, 3 rebounds, and 3 assists

RHI Women’s Basketball

Blake Powell
Sports Editor

The Rose-Hulman team won another conference game to improve to 14-0 in HCAC action by beating Bluffton 50-44. The Fighting Engineers nation-ally ranked No. 8 defense was definitely displayed as they forced Bluffton to 1-9 in their opening frame.

The victory allowed the team to keep their one-game lead in the HCAC with their 12-7 record.

The victory was Rose-Hulman’s nineteenth win in their past fourteen games.

Standout Performers

Lindsey Fagerberg – 20 points, 6 rebounds, and 2 assists

Basketball

Winners are marked in bold.

Games played: 10

TEAM NAME W L T GP STREAK STANDING

Quesnu, 6 8 0 0 W4 1st

Fin-Saquan You, 6 8 0 0 W4 1st

Trigga B, 3 5 0 0 W3 3rd

Pack, 5 2 0 0 W5 5th

Cat Ladies, 2 4 0 0 W4 4th

Intramural Standings

Basketball

Winners are marked in bold.

Games played: 10

TEAM NAME W L T GP STREAK STANDING

Bull Stars, 0 0 0 0 W0 1st

Rim Runners, 0 0 0 0 W0 1st

Crimsonballers, 2 0 0 0 W2 2nd

Lokemwang, 2 0 0 0 W2 2nd

Beasts of Woot, 2 1 0 0 W1 3rd

Volleyball

Winners are marked in bold.

Games played: 10

TEAM NAME W L T GP STREAK STANDING

Game Good, 4 0 0 0 W4 1st

Hit Squad, 3 1 0 0 W3 2nd

Bears of Woot, 3 1 0 0 W3 2nd

Net Effort, 2 2 0 0 W2 2nd

Hit Frisbee, 2 3 0 0 W2 2nd

Devin Williams is the RHI Player of the Week. This week, Williams began his intense cardio routine by running the Hawthorne trail, which has helped ATO take the lead in the Fit challenge. In addition, Devin set a personal record of 20 pounds on curls. Devin was also ranked the No. 1 African American student in his high school. Thank you for everything you bring to the Rose-Hulman community and congrats on being the first “Lifter of the Week.”

Thank you, Seniors, for everything you’ve done for Rose-Hulman.

Photo By Rose-Hulman Athletics

Photo By Rose-Hulman Athletics
National 7 Day Forecast

- **National Shower with a Friend Day - May 5th**
- **National Frozen Yogurt Day - May 6th**
- **National Girls & Women in Sports Day - May 7th**
- **National Iowa Day - May 8th**
- **National No One Eats Alone Day - May 9th**
- **National Cream Cheese Brownie Day - May 10th**
- **National Don’t Cry Over Spilled Milk Day - May 11th**

### Personal

**CAN YOU FIX ME?**

Broken medical professional looking for capable 20-year-old, strong arm, nifty abs. No homo. Preferably; companions should have CHISELED muscles like mine and ROCK HARD abs. No homo.

(n o h o m o)

**Shower buddies? (NO HOMO)**

I’m a SELF-MADE MAN looking for some cool bros to partake in National Shower with a Friend Day. No homo. Preferably; companions should have CHISELED muscles like mine and ROCK HARD abs. No homo.

Top 10 Things that should have been in the State of the Union

1. **Obama**
2. An Epic Rap Battle via Twitter
3. Two Hours of Trump Responding to Negative Tweets - Live over Twitter
4. Trump Swatting at Clinton
5. REM Crawling from their Graves for a Live Rendition of “It's the End of the World”
6. Joe Biden Trying to get on Camera... Again
7. Trump to go all “Bing Bong Bing Bong”
8. Spontaneous Liver Failure in Half the Country
9. Alex Jones Opens for Trump Wearing a Tinfoil Hat
10. Intermission Sponsored by Diet Coke

11. Joe Biden Meme Bingo
12. Kanye Filibusters State of the Union - “Trump, Imma let you finish, but...”
13. It was Actually a Saturday Night Live Cold Open the Entire Time
14. America gets Called into the Dean’s Office and Gets a Stern Talking to
15. Oprah Style Giveaway - “You get paper towels and you get paper towels!”
16. The Scooby Doo Gang Unmasks Trump
17. It Turns out to be a QVC segment for Ivanka’s Clothes
18. Trump Arrives Dressed as a Ringmaster and Starts Singing the Greatest Showman
20. Trump Hits his Big Red Button - “That’s all folks!”

### Heard 'Round Campus

“Whoa dude, is that anime?”

“No, it’s Yu-Gi-Oh.”

“I only know one other Charles and he tried to drown me.”

“And somebody was just getting murdered in the hallway...”

### Wacky Prof Quotes

“I saw that my quote was in the Thorn... you know I’m not tenured yet!”

- Dr. Megan Heyman

“I’ve been swamped. I crawled into bed last night hoping death would take me. I’m sure you guys were praying for my death as well.”

- Dr. Ross Weatherman

“You can convince me to do it either way, but you can’t convince me to care.”

- Dr. Richard House

“We only have five minutes left so I’m going to talk about how awesome I was as an undergraduate.”

- Dr. Jeffrey Leader

**Did your prof say something hilarious or just great out of context? Did you hear something amusing or your jaunt about the news halls of this institution? We want to hear about it! Send your quotes with who said it to: thorn-flipside@rose-hulman.edu or fill out this nifty google form:**

[https://goo.gl/forms/BcgwxxGHOhaaYVi](https://goo.gl/forms/BcgwxxGHOhaaYVi)

This issue marks the one-year anniversary of the National 7 Day Forecast. Does this mean it’s time to stop? Please send an email with questions, concerns, or content to the Thorn Flipside Editor <thorn-flipside@rose-hulman.edu> - Disclaimer: The Flipside is purely for fun! Any uncredited work above can be attributed to me, Emma Orowod.