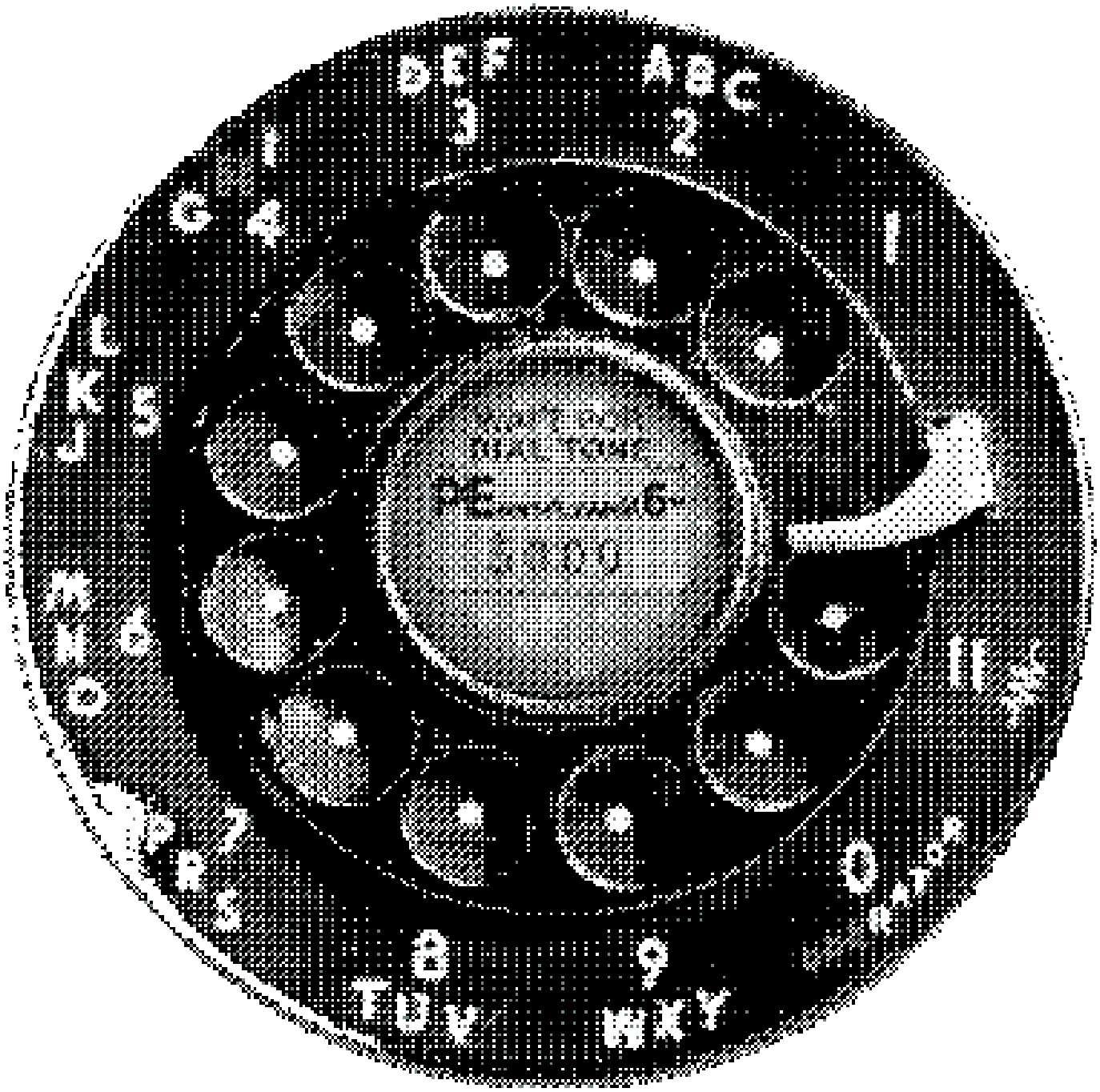
HOPE_16>

connecting...

Hackers On Planet Earth August 15-17, 2025
St. John's University, Queens, New York City



Contents

Day 1

Talks

10:48 AM: (HOPE_16 Opening Ceremonies)

It all starts Friday morning. Join us as we make sure everything works before another HOPE is unleashed on everyone.

11:00 AM: (Dark Web Digger: Modular Scraping for Dark Web Intel)

Dark web forums are a major resource for the hacking community and play a large role in the spread of information, data leaks, tools, services, and related transactions. While it is common for users to keep similar usernames and identifiers across different forums to maintain their credibility, these users often need to create or change accounts. The prototype presented here looks to tie anonymized accounts to the same user, as they will likely have similar language usage, post content, tools, tactics, and procedures (TTPs). The presenters developed a modular web scraper that can extract data from forums and store said data for analysis. They explore opportunities to leverage machine learning techniques to automate and enhance the process of cyber threat intelligence (CTI) analysis in the future. This includes using natural language processing (NLP) to digitally fingerprint users based on speech patterns, trend detection between users and forums, and even a chatbot to assist the tool's users in finding specific information. The project provides analysts with a wholistic view of how users interact on these forums, making it more functional and versatile.

Speakers: Samantha Stortz, Dominick Foti

Location: Marillac Auditorium

12:00 PM: (The Five Pillars For Rewriting History and Culture)

From printing press to blockchain, technological advances reshape historical narratives across five pillars: finance, governance, faith, communications, and consciousness. Influential entities employ sophisticated cyber and information solutions to manipulate resources and power. Governments, corporations, and NGOs manage narratives, shaping opinion and obscuring truths as they manage perception. Religious groups use digital platforms to spread doctrine, blurring traditional faith boundaries. Social media and emerging technologies amplify disinformation worldwide. These operations exploit cognitive vulnerabilities, reshaping collective memory and fueling evolving consciousness. This talk will examine how technology-driven psychological operations can unmake historical canons, normalizing new realities and marginalizing dissent. The presenters will highlight ethical dilemmas and stress the urgent need for transparency, critical awareness, and decentralization across all pillars. Lastly, they will offer recommendations for how the individual can remain resilient in the face of these existential threats and multifaceted Manichean devils.

Speakers: Alexander J. Urbelis, Daniel Nowak, Roel Schouwenberg

Location: Marillac Auditorium

1:00 PM: (The Present and Future of Online Discourse)

Today's technologies greatly empower individuals and groups, while simultaneously creating tremendous risks to freedom and privacy. How can major forces like big tech, artificial intelligence, and political governance be guided towards pro-social outcomes? What can individuals do? Is there hope for social media to heal divisions, rather than amplify discord? These and other topics will be addressed during this lively and far-ranging presentation.

Speakers: Harper Reed

Location: Marillac Auditorium

2:00 PM: (Getting Out of DOGE: A Discussion With a Former DOGE Engineer)

The whole world has been watching as the "Department of Government Efficiency" (DOGE), the partnership between Elon Musk and the Trump administration, has worked to fulfill its pledge to reduce waste, fraud, and abuse in the federal government. Despite promises to the contrary, there has been very little transparency about DOGE or its operations - until now.
Join Adam Klasfeld, a former MSNBC legal contributor and founder of All Rise News, as he interviews Sahil Lavingia, a former DOGE engineer. This discussion aims to reveal what DOGE is really doing behind the scenes and offer the public a unique chance to ask direct questions to someone who was there.

Speakers: Adam Klasfeld, Sahil Lavingia
Location: Marillac Auditorium

3:00 PM: (How a Handful of Location Data Brokers Actively Track Millions, and How to Stop Them)

In the past year, a number of investigations have revealed the outsized role of a few select companies in gathering, storing, and selling the location data of millions of devices - and by extension people - worldwide. These companies largely use technologies which power the online advertising industry in order to collect and disseminate this data. To make matters worse, this data has been both provided to private investigators on the mere assurance that they plan to work with law enforcement, and has been subject to data breaches which put the privacy of millions at risk. This talk will elaborate on the technologies, data flows, and industry players which comprise this complicated ecosystem. Most importantly, it will cover some basic steps you can perform to protect yourself against the wide array of location privacy harms your device subjects you to. The presenters will show tools and techniques they've developed to allow users to take back ownership of our devices, rather than our devices owning us.

Speakers: Lena Cohen, Bill Budington
Location: Marillac Auditorium

4:00 PM: (Activism, Hactivism, and the Law)

Protest has become more important and more dangerous in the U.S. It's harder to know where the line is between safe, lawful protest and actions that can get you sanctioned, arrested, or deported. Alex will discuss how to assess the risks you face in online and in-person protests, ranging from pickets to dropping docs.

Speakers: Alex Muentz
Location: Marillac Auditorium

5:00 PM: (Claw Back Your Data From Big Tech With Cyd)

Tech platforms can't be trusted. Oligarchs and billionaires want you to keep giving your data to their Big Tech companies for free so they can sell it and manipulate you into believing nonsense. In this talk, the Lockdown Systems collective will introduce Cyd, their open source desktop app that makes it easy for people to reclaim control over their data from Big Tech. Giving users actual control over their data is challenging when dealing with hostile, enshittified tech platforms like X and Facebook. Cyd bypasses all of that though by putting the user in the driver's seat: it runs on the user's own computer, from their own IP address, and it works by automating a web browser on their behalf - and sometimes relying on APIs, when they're available, free, and don't suck. It doesn't share any access to your accounts or your data with the Lockdown Systems collective. Attendees will learn how Cyd works under the hood, how you can use it, and how you can contribute to building tools that challenge the dominance of Big Tech.

Speakers: redshiftzero, Micah Lee, Yael Grauer
Location: Marillac Auditorium

6:00 PM: (QWK Packets and the Muffled Spark)

A deep dive into the QWK packet - a revolutionary addition to the Bulletin Board Experience of the 1980s - and the ramifications of what it represents in a very changed world.

Speakers: Jason Scott
Location: Marillac Auditorium

7:00 PM: (Hardware Hacking Meets Art: How Movie Special Effects Are Made)

Step into the world of movie magic with Davis DeWitt, a filmmaker, inventor, and former Mythbuster and learn how combining hardware hacking with art creates objects that do more than function: they evoke emotion and tell stories. From blowing up cars to building robots with personality, this talk will explore why it's important to tackle projects that blur the lines between disciplines.

Speakers: Davis DeWitt
Location: Marillac Auditorium

8:00 PM: (The Quantum Curtain)

High technology has taken on a new meaning. As AI technologies grow increasingly creepy and quantum computing catches major headlines, the U.S. government is scrambling to cover its posterior. Recognizing that these technologies pose a significant security risk, the U.S. Bureau of Industry and Security has imposed export controls on AI and quantum computing technologies in an attempt to limit their spread. This talk will discuss the history of export restrictions, touching on cryptography and the Playstation 2, before moving on to explain the new restrictions and their implications for those working in impacted fields. The idea of a "deemed export," which limits who is even allowed to learn about certain technologies, will be addressed.

Speakers: Ed Ryan
Location: Marillac Auditorium

9:00 PM: (Tips on Living Life in Interesting Times)

What motivates us to do what we do? How do we find meaning in doing it? What makes us choose what we choose? Can we do better? What is important? Can we thrive and feel excellent, regardless of particular outcomes? These questions may now be more pressing than ever in our most interesting of times.
Throughout our lives we tend to go with the flow of what is happening, making choices by default. Where do those choices come from? In the face of the rapidly changing and challenging times that we live in, personal and political, social and economic, can we find motivation to do what we do? Can we actually improve anything? Can we find and maintain enthusiasm to move forward into the unknown and feel good about our choices, regardless of outcome? Mitch will draw from lessons learned (and re-learned), doing his best to face the challenges while often haphazardly wandering through his 68 years on the planet. This talk will attempt to address these existential, important questions that we all face (whether consciously or not).

Speakers: Mitch Altman
Location: Marillac Auditorium

11:00 AM: (Spooky Action at a Discount: DIY Meshtastic Nodes)

To anyone interested in off-grid communication at a low cost, Meshtastic allows even beginners to communicate with (or control) devices from miles away. Thanks to applications in emergency communication, sensor monitoring, and censor-proof encrypted chat, Meshtastic is exploding in popularity even as the cost for making nodes is going down. This talk will cover the basics of Meshtastic, setting up and customizing nodes, plus outlining the tips and tricks to building affordable custom Meshtastic nodes, learned from building custom Nibble Meshtastic nodes for the conference. Attacks against Meshtastic and issues observed in the wild will also be covered. Expect to learn about LoRa, Meshtastic node and antenna options, how to deploy nodes for specific applications, attacks against Meshtastic, and how to join larger mesh networks in your local area!

Speakers: Kody Kinzie
Location: Little Theatre

12:00 PM: (A Sleuth's Stories on Detecting and Revealing Large-Scale Research Fraud)

In this talk, the speaker will share how they stumbled into this work by accident and what it's like to operate as a scientific sleuth within academia. The bulk of the presentation will focus on real-world cases of research fraud and misconduct, spanning fields from neurodegenerative diseases to chemistry, physics, and materials science. The talk will, through these examples, explore: the techniques and tools used to detect irregularities; how issues are reported to journals and publishers; the distinction between honest mistakes and deliberate manipulation; the collateral damage caused by misconduct, including its impact on public trust in science. The final section will examine the social and economic drivers of research fraud - and outline the systemic changes needed, globally, to break this cycle and restore integrity in science.

Speakers: Mu Yang
Location: Little Theatre

1:00 PM: (Hack the Violin Part 2: The Advanced Stuff - This Time There's AI)

This is a follow-on from "Hack the Violin: A Hacker's Approach to Learning, Playing, and Teaching the Violin" from Hope XV.
This will be a look at technology, most notably AI and hacking the violin. You will learn what's out there and what the presenters were able to achieve with their own AI project regarding practicing and engagement. You will also learn about AI with live performance and creation, as well as AI and string sampling - and see how sampling may be altering the stringscape.

Speakers: Andrew Morican, Ebmbat
Location: Little Theatre

2:00 PM: (Into the Fediverse)

One third of Americans say that social media has negatively impacted their mental health. Almost two thirds say that social media has been bad for democracy. But the majority of us still use social media on a daily basis. We clearly need better social media - enabling user choice or even platforms built and run by the users. The Fediverse is a coalition of social networking platforms that connect together, letting users interact across platforms while maintaining their independence. Evan is one of the authors of the ActivityPub standard that drives the Fediverse. He will discuss how the Fediverse went from a dream to a reality, and how individuals and communities can start exercising control over their own social platforms.

Speakers: Evan Prodromou

Location: Little Theatre

3:00 PM: (Small Budget, Big Protection: Cyber Defense for SMBs)

Small businesses often face significant challenges in defending their organizations with limited budgets. This talk will provide valuable insights into budget-friendly approaches to long-standing cybersecurity issues, helping small and medium-sized businesses (SMBs) improve their security posture without excessive costs. Attendees will learn how to navigate the delicate balance between driving digital innovation and managing the risks of cyber threats and data breaches. Obstacles that prevent smaller companies from accessing affordable security resources will be explored along with practical solutions to overcome these hurdles.
Many smaller organizations make the mistake of focusing solely on technology to solve their security problems, neglecting crucial aspects like people and processes. This talk will emphasize the importance of a holistic approach to cybersecurity, sharing strategies that larger companies have learned over decades. By understanding and implementing these strategies, SMBs can avoid common pitfalls and effectively raise their security standards. Attendees will leave with actionable tips on improving their cybersecurity practices within a limited budget, ultimately enhancing their overall defense capabilities.

Speakers: Robert Wagner

Location: Little Theatre

4:00 PM: (Human Augmentation: Hacking Human Perception and Performance With Technology: Benefits and Dangers)

Human augmentation is the idea of using technology to hack, alter, and enhance human perception and performance. Imagine being able to enhance your ability to navigate by sensing the flow of magnetic fields like a pigeon. Many industries are starting to explore human augmentation, such as space (enhancing astronauts), medical (rehabilitation), entertainment (greater immersion), military (greater performance), among others. In the first presentation, Dr. Vimal will begin by providing an overview of psychology and neuroscience research on the topics of human augmentation. Then he will share his own NASA-funded research on using sensory augmentation as a countermeasure for spatial disorientation. What dangers could arise from building a bridge between human and sensory augmentation devices that have the capability of altering human perception? This question will connect to the second presentation of the panel, where Dr. Palmer and Dr. Potter will explore how human augmentation connects to security through biocybersecurity followed by Q&A.

Speakers: Lucas Potter, Xavier Palmer, Vivekanand Pandey Vimal

Location: Little Theatre

5:00 PM: (A Red Team Exercise 2028, 18 Years Later)

This presentation is about red, blue and purple teams, along with the rest of the rainbow. Dig in for a fun and interactive presentation where the panel threat models and then attacks people, process, and technology. Bring your creative thinking and defensive skills and try to stop the... hackers.

Speakers: Tom Brennan, Logan Klein, Anthony Martini

Location: Little Theatre

6:00 PM: (Turning Leaks Into Leads With OCCRP Aleph)

You've got a leak, a name, or a suspicious company. What's your next move? In a world where corruption thrives in the shadows, the Organized Crime and Corruption Reporting Project (OCCRP) provides the infrastructure to bring truth to light. At the core is Aleph, a powerful data platform built to help investigators follow the money and uncover complex networks across diverse sources. Bring your own data or explore the presenters' - the OCCRP data team collects and curates four billion records from nearly 200 countries, ranging from corporate registries and sanctions lists to court filings and leaked documents. This session will walk through how Aleph powers live investigations, transforming raw, chaotic data into structured insights that expose the actors and assets behind fraud and abuse of power. Designed by journalists, researchers, and developers on the frontlines, Aleph is more than a tool - it's a global community working together to uncover the truth. What will you find?

Speakers: Ezana Geman, Klil Eden

Location: Little Theatre

7:00 PM: (Eco-Hacking Desire: The Intersection of Pornography, Sex, and Environmental Impact)

This talk explores the intersection of desire and sustainability, examining how even our most intimate moments leave an environmental footprint. The concept of sexecology, coined by Annie Sprinkle and Beth Stephens, bridges environmentalism and sexuality in creative ways. From solar-powered vibrators to eco-friendly sex toys, the session delves into the often overlooked world of green sex tech and eco-erotic practices.
Key questions explored will include:
- What are the true environmental costs of online pornography?
- How sustainable is our streaming culture and AI technologies?
- Can DIY pleasure practices be a form of political activism?
- What role does ethical pornography play in envisioning a better future?
The discussion will also cover energy consumption, server loads, and the hidden costs behind virtual acts of desire. The focus is not to shame desire, but to empower it with awareness, curiosity, and hacker ethics. The speaker, a feminist activist and artist, aims to foster a dialogue about how digital intimacy can become more visible, accountable, and hackable. This talk invites the hacker community and beyond to collaborate in rethinking the infrastructures behind online pleasure and to explore ways of making the environmental impact of these systems more transparent.

Speakers: Jasmin Hagendorfer

Location: Little Theatre

8:00 PM: (Bitpart: 3-In-1 Platform for Activism Over Signal)

Signal is one of the most critical tools we have for secure communication amongst activists, journalists, and human rights defenders. As of 2024, Signal has over 70 million active users and over 220 million downloads, with no signs of slowing down. With the global rise of the far-right and corresponding attacks on human rights, the ability to securely organize via Signal against these forces is more important than ever.

To that end, Throneless Tech has embarked on an in-depth research project that resulted in the creation of Bitpart: a Rust-based software platform that allows for the creation of dynamic organizing tools on top of Signal. Depending on the end-users' tech capacity, Bitpart can be run on organizers' own self-hosted servers or through Throneless-hosted servers. The project builds on experience gained from past Signal chatbot projects, and new research conducted with targeted groups such as current organizers, activists, and journalists around the world.

In this session Josh King, developer of Bitpart, will demonstrate how the platform is being used to create bots that activists can use as secure, anonymous tiplines, digital helpdesks, broadcast lists, a tool to distribute eSIMs, and a tool to share VPN download codes. Participants will come away with an understanding of how Signal can be utilized in novel ways, how to think through the threat model and risk assessment for creating secure tools for activists, and how Bitpart can be expanded upon and applied to their own communities.

Speakers: Josh King

Location: Little Theatre

9:00 PM: (Data Autonomy: Counter-Surveillance Strategies For Civil Society)

The surveillance apparatus in the West is going critical, and civil society is not prepared for the fallout. Political leadership is explicitly targeting NGOs and social movements using surveillance capabilities that have been perfected over the past decade. This talk will evaluate the merits and limitations of different counter-surveillance approaches from the vantage point of grassroots organizers, and go beyond the stock advice of "use Signal and a VPN" to offer proposals for defeating state surveillance through technical infrastructure development and political

Speakers: Marlon Kautz
Location: Little Theatre

10:00 PM: (Eternal Soup)

Eternal Soup is an experimental band born in Jersey City, New Jersey. With an intent on exploring a wide array of musical concepts in different mediums, the trio has developed an adaptive nature for communicating with their growing audience. Jackson Hillmer's simmering groove of pops and cracks supports Nicole Davis' amorphous vocals, fresh trumpet playing, and electronics to shape a fragrant atmosphere. Guitarist and sonic scientist Gabe Marquez slips, slides, and chops up melodies you only just heard, but feel you should've written. From avant-garde arts cafes and overflowing local bars to family friendly barn shows, Eternal Soup explores and elevates the fundamental concept that each flavor in a recipe must be enhanced with the next ingredient thrown in the pot.
instagram: @eternal_soups
linktree: linktree/eternalsoup

11:00 PM: (H4XORS - Live Hardware Remix & Rescore by VIDEOPUNKS)

They're trashing our rights!! All Hardware A/V band VIDEOPUNKS have stripped the original score from the classic 1998 movie (while leaving the dialog and sound effects), cut the film down to an hour (all killer, no filler!), and have written a brand new score on the Roland MC-707 to be performed LIVE for the original film's 30th anniversary.
Grooveboxes, VCRs, and a whole lot of cables - come see your favorite movie of all time in a brand new way right before your eyes! Hack the Planet!!
Since 2010, VIDEOPUNKS have focused on analog video hardware, performing alongside artists such as Merzbow, Machine Girl, NMESH, and literally hundreds of others. With VXPX, they've released over 60 DIY VHS releases of audiovisual madness from over 100 video artists, including a VHS version of H4XORS. In 2024, they toured the live score project in over a dozen cities, including Tokyo!
bandcamp: videopunks.bandcamp.com
instagram:@vxpx.info

12:30 AM: (LEX the Lexicon Artist)

LEX the Lexicon Artist is a rapper-songwriter who blends hip-hop, pop, punk, and a distinctly nerdy eccentricity. Whether in recorded music or live shows, LEX's humor, candidness, authenticity, and over-the-top stage presence have captured the hearts of fans around the world.
LEX has performed in 34 U.S. states and in Canada. They have been an official musical guest at various anime and gaming conventions, including Music and Gaming Festival (MAGFest) in National Harbor, MD; FanimeCon in San Jose, CA; SXSW Music Festival in Austin, TX; Anime Expo in Los Angeles, CA; CyphaCon in Lake Charles, LA; and ColossalCon East in Poconos, PA. LEX has also performed at major colleges and universities, including UC Davis, San Francisco State University, and Stanford University.
LEX has released two full length albums - Alter Ego (2020) and Raging Ego (2018) - as well as a variety of singles and EPs. Their work has been featured on the actual play RPG podcast Campaign: Skyjacks (One Shot Podcast Network) and the Firefox documentary series Firefox Presents. In 2023, LEX received full funding of the Kickstarter campaign for their third full-length album, Toxpsychology.
website: thelexiconartist.com/

12:00 PM: (PrivacySafe and 3NWeb: Engineering User-Centric Digital Sovereignty)

We want to control the technology we use, and we want to trust it. At the same time, we expect it to be convenient. 3NWeb is a groundbreaking framework that gives users full control over their digital interactions across devices, while preserving privacy and independence from centralized systems. Grounded in core principles like the principle of least authority (PoLA) and web-style federation, 3NWeb reimagines how services should operate in a user-first Internet. This presentation includes a demo of PrivacySafe, a client-side 3NWeb platform that is real, downloadable, and ready to use today. Its careful implementation raises meaningful questions from a range of perspectives: users, organizational administrators, application developers, and service providers. The session will address practical considerations and continue with in-depth conversations in the hallway track.

Speakers: Mikalai Birukou

Location: Tobin

1:00 PM: (Media, Vibe Coding, and the Long Tail)

What is even happening in the media now? There's a resurgence of paper magazines, and now they reach a long tail of subscribers due to the powers of the Internet. At the same time, social media platforms are downgrading in complexity and Signal chats have somehow become the new social media conversation. Everything old is new again, and it's all combining and recombining with weird emergent politics and independent vibe coders. This will be a discussion of the future of media, especially as seen within alternative cultures and the weird Internet.

Speakers: Lydia Laurenson

Location: Tobin

2:00 PM: (CRXaminer - Deep Dive Into Chrome Extensions (Plus Tool))

You spend your time configuring HTTP headers and hardening your containers. Meanwhile your CFO just downloaded a Chrome extension to make the font in Gmail Comic Sans. What are Chrome extensions, exactly? This talk will dive into details, including format, contents, static analysis with custom rules, threat modeling (when does this even matter?), and some of the unique challenges of building a security scanner. A tool will be demoed that has just been released for this: CRXaminer (crxaminer.tech). You will learn how you can immediately start using it.

Speakers: Mark El-Khoury

Location: Tobin

3:00 PM: (Itinerant Signal Institute (Rite of Spring))

"Itinerant Signal Institute" is a project that leverages open source technology to examine and communicate about land use. As we move into an era of potentially increasing climate migration, the project aims to create a network of sensors that test environmental toxins. It examines the effect of local emissions on global climate change, using small devices that test the air and soil. That information is then shared via a portal. Imagery for the project will include ritual costumes that mark the changing of seasons. The project began with visits to polluted locations in New York City, including Governors Island (a former military base) and Newtown Creek (one of the most toxic waterways), and working with the Urban Soils Institute to collect information for the project.

Speakers: Amelia Marzec

Location: Tobin

4:00 PM: (PrivacyTests.org: Web Browser Leak Testing)

PrivacyTests.org is an open source privacy audit of popular web browsers. The project subjects web browsers to automated leak tests and regularly publishes the browsers' test results head-to-head on a website and on social media. The goal of PrivacyTests is to encourage all web browsers to mend their ways and comprehensively protect everyone's privacy. By thoroughly exposing the leaks in web browsers, the website helps users choose a more private browser, and thereby puts pressure on browser makers to fix their privacy leaks. In his talk, Arthur will give some details about the project's approach to testing and presenting test results, and show how browser privacy has evolved over the past four years.

Speakers: Arthur Edelstein

Location: Tobin

5:00 PM: (Packets Over Any Wire: Alternative Networking Mediums for Hackers)

Why limit yourself to Ethernet and Wi-Fi when every wire in your house can carry packets? This talk explores alternative physical networking technologies that exist but are often overlooked. From powerline networking (HomePlug AV/AV2) to MoCA over coaxial cables, the talk will dive into how these systems work, their encryption and security models, known exploits, and the inherent risks of non-switched cable mediums. Real-world applications, including whole-home audio and video distribution, network segmentation strategies, and the unexpected advantages of leveraging existing infrastructure will also be explored. You'll see how HDMI matrices, IP-based video distribution, and networked audio solutions like SonosNet can integrate seamlessly over alternative backbones. Segmentation techniques to isolate security cameras will also be covered. Expect deep technical insights, practical lessons from years of experimentation, and a fresh perspective on what's possible when you stop thinking of cables as just power or TV lines - and start treating them as network highways. Whether you're looking to expand connectivity in a complex environment or just want to push the limits of home networking, this talk will leave you with new tools, techniques, and ideas to explore.

Speakers: Haxedalot

Location: Tobin

6:00 PM: (Aphantasia: A Personal Reflection)

Imagine a mind without mental images, where "picture this" has no meaning. Aphantasia - the inability to form mental images - is a little-known, rare condition that affects around one to four percent of the population. In this presentation, Earl will talk about aphantasia and how it has impacted his professional life as a pathologist and a teacher with more than 38 years of experience. He will explore its impact - both good and bad - on everyday experiences such as chess, piano, drawing, reading, memory, and learning, finally speculating on how aphantasia may affect creativity and the hacker mindset.

Speakers: Dr. Earl Brown

Location: Tobin

7:00 PM: (Meshtastic Attacktastic)

In emergencies or off-grid scenarios, Meshtastic shines, but it can crumple when adversaries go off-script. Meshtastic is an open-source platform that allows for long-range, off-grid communication through LoRa-based mesh networks. While offering powerful tools for decentralized communication, particularly in remote areas or during emergencies, Meshtastic also introduces a set of security risks that could be exploited by adversaries. This talk explores the potential vulnerabilities within Meshtastic networks, focusing on attack vectors such as physical attacks, privacy leaks, key management, and Jamming. Additionally, the effectiveness of the platform's encryption and authentication mechanisms will be analyzed, offering insights into how these systems can be compromised and how users can fend off attackers.
This session will include a technical breakdown of known vulnerabilities and present both simulated and real-world examples of attacks on Meshtastic networks. Attendees will gain a deeper understanding of how to defend against these threats, hardening their mesh networks against malicious actors.
Whether you're a hobbyist experimenting with off-grid communications or a security professional assessing decentralized systems, this presentation will equip you with the tools and knowledge to secure your Meshtastic devices.

Speakers: Dave "Heal" Schwartzberg

Location: Tobin

8:00 PM: (Esolangs as a Hacker Folk Art)

The most important computational art is happening far from museums, immersive art "experiences," and the smoldering ruins of NFT platforms. Esolangs, like demos and code golf, are hacker folk art, born entirely outside the art world, yet beginning to get wider attention as more digital artists and poets contribute to the form. This should not be a surprise with the critical work it has done to explore our relationship with technology, the politics of computing, the aesthetics of code, among many other subjects. This talk will present esolangs, not as a loose collection of language associated by algorithmic complexity, but a social history of how each language influenced the next, drawing from ten years of interviews for the blog esoteric.codes. It will look at esolangs as more than technical wizardry and consider aesthetics for this form that often pretends to eschew aesthetics entirely.

Speakers: Daniel Temkin

Location: Tobin

9:00 PM: (Off-Grid Data Running in Oppressive Regimes: The Pirate Box Project (and Sneakernet!))

In today's political climate in the U.S., the Internet as we know it is in danger of becoming heavily monitored, privatized, and censored. Information may only be what the corporations and government want you to see, and it may become difficult for marginalized and poor communities to have access to free information and education that the Internet provides. But by building an off-grid, mesh networked system known as the Pirate Box, it'll become a pivotal way of being the data runner your community needs. The Pirate Box is a form of Sneakernet, and this talk will give you a brief overview of both, as well as strategic tools and ways to make a Pirate Box of your own, along with projects in the spirit of the Pirate Box.

Speakers: LambdaCalculus

Location: Tobin

Workshops

3:30 PM: (Engineering Bias in Facial Recognition: Workshop and Safe Experimental Space)

This workshop will demonstrate the facial recognition visualizer, which extracts live inferences from images of the face, including estimated age, gender, emotional expression, and more. The existing facial recognition visualizer software will be expanded with a prompt engineering component, in which the participant can develop a prompt that makes further assessments based on the appearance of an individual. During the workshops, participants will be invited to try out this software to experiment with different prompts. This workshop will reveal how readily AI and machine learning systems can be trained to make absolute determinations based on input data, even when those determinations are based on biased, incomplete assumptions. Given that any video-based surveillance system can be expanded to make these kinds of inferences, this workshop intends to give participants firsthand knowledge of how effortlessly biased determinations can be made based on facial surveillance data - and how risky these determinations actually are.

Speakers: Evan Light, Craig Fahner
Location: Workshop A / Tobin 219

6:00 PM: (Violent Python)

Even if you have never programmed before, you can quickly and easily learn how to make custom hacking tools in Python. The presenters build tools that perform port scanning, brute-force attacks, crack password hashes, and attack various encryption methods including one-time pads. Python is very popular for good reason: it's the easiest language to use for general purposes. This workshop is structured as a CTF (Capture The Flag), so each participant can proceed at their own pace. The techniques will be briefly demonstrated, and tips and help will be provided as needed to make sure everyone is able to solve at least some of the challenges. All materials are freely available and will remain so after the workshop.

Speakers: Sam Bowne, Elizabeth Biddlecome
Location: Workshop A / Tobin 219

12:00 PM: (Creative Problem-Solving)

This workshop immerses participants into using both familiar and unfamiliar creative methodologies, problem-solving techniques, and the application of diverse tool sets. This comprehensive program spans from understanding the fundamentals of creativity to the practical utilization of creative tool kits for generating and focusing options in problem-solving scenarios. By the end of the day, participants will be equipped with the skills and knowledge necessary for creative problem-solving, fostering an innovative mindset, and providing practical tools for addressing challenges in real-world scenarios. The workshop is designed to engage participants through structured problem-solving activities, allowing them to apply various techniques in hands-on labs. It will begin with an introduction to a range of problem-solving strategies, including idea-generation and focusing tools, among others. These techniques will help participants approach challenges systematically and creatively. The workshop will be divided into groups by the facilitator, with each group tackling different labs. As participants work through the labs, they will practice and apply the tools and techniques introduced earlier. The facilitator will guide the groups, providing support and facilitating discussion to ensure participants are effectively using the problem-solving methods. This collaborative and interactive format encourages active learning and helps participants refine their problem-solving skills in a real-world context.

Speakers: Gregory Carpenter

Location: Workshop B / Tobin 221

2:30 PM: (Check Your Stuff: A Drug Checking Workshop)

Learn how to use reagent testing on various substances in order to use these substances more safely. This workshop will not include the testing of any illicit drugs, but will use household items like aspirin, sugar, and baking powder, to teach how to test. Attendees will also receive take home information on how to test on their own, and discounted pricing on test kits. By completing this workshop, you will have all the tools and knowledge needed to test your substances at home and consume them more safely.

Speakers: Jared Skolnick, Adam Cook

Location: Workshop B / Tobin 221

4:00 PM: (Practical and Continuous Security Engineering (Starting a Security Program for Free))

This workshop is a hands-on exercise in building a good security program. The presenters have built security programs from scratch at multiple companies and have found that, while the companies can vary, the fundamentals remain roughly the same. The goal here is to bridge the gap between common infosec vendor jargon and practical security engineering work. There's no shortage of acronyms being invented every week in the realm of security engineering. Instead of wading through these buzzwords that might not even be around by the end of the year, this workshop will dig into the principles that make for a good security program. These principles will then be applied with practical hands-on exercises where you'll use free and open source security tools to build continuous security automation and alerting similar to ones that have been built when starting new security programs.

Speakers: Mark El-Khoury, Omar

Location: Workshop B / Tobin 221

8:00 PM: (Interviewing for the Sake of History and Memory)

Among the most important yet difficult aspects of preserving history is to acquire the stories and memories of people who played a part in it. Whether for an edited piece, produced professionally, or just to get the record straight before recollection and individuals are gone, interviews are the critical building block. This workshop gives a context and foundation for being able to conduct interviews that will hold interest and inform later generations. Process, preparation, and follow through will be covered, as well as a number of examples from the audience.

Speakers: Jason Scott

Location: Workshop B / Tobin 221

12:00 PM: (Wireguard Three Ways: Cooking Up Security in a Surveillance State)

It's never been clearer that we need to hold our communications technology at arm's length. The rise of authoritarianism, the fall of due process, and the ubiquity of data sniffing mechanisms poses a threat to anyone and everyone, even if they have "nothing to hide." In such an environment, taking steps to secure your communications and digital activity is basic self-defense. But the conventional advice - "use a VPN" - isn't gonna cut it. Especially if you are building a community of any sort that needs to share information, you require a more self-managed networking solution. That's where Wireguard comes in. Wireguard, a newer VPN technology, allows the creation of point-to-point VPNs that are wholly owned by the network participants. When used correctly, Wireguard networks make traffic between trusted hosts unobservable to prying eyes. This workshop will explore three "recipes" for Wireguard networking to fit various threat models. Wireguard basic concepts will be reviewed, you'll learn how to configure it quickly for desktop and mobile devices, and you'll find out when to apply each Wireguard recipe. Each network type will be created by the participants! This workshop takes no shortcuts. Wireguard and a minimum of additional tools will be used to get networks set up, since each additional dependency adds to the risk profile. Attendees will leave with an understanding of Wireguard networks, and be prepared to create one for themselves and their communities.

Speakers: Michael Taggart

Location: Workshop C / Tobin 223

3:30 PM: (Realtime Audio Processing With a Laptop Using LiCoRICE)

LiCoRICE (Linux Comodular Realtime Interactive Computation Engine) is an open-source, model-based design software tool for running (soft) realtime applications. It was developed for systems neuroscience research to collect, process, and output neuroelectrophysiology data with empirically guaranteed millisecond timings. Given its general purpose nature, LiCoRICE can also be used to process audio in realtime, control lighting elements, or for robotics applications. In this workshop, participants will learn about realtime basics: how to install LiCoRICE: and will run a realtime application that records, modifies, and outputs an audio stream in realtime.

Speakers: Sabar Dasgupta
Location: Workshop C / Tobin 223

7:00 PM: (Claw Back Your Data From Big Tech (Today) With Cyd)

The Lockdown Systems Collective will be holding a hands-on workshop about Cyd, the open source app that helps you claw back your data from big tech companies. This workshop will walk you through the following: installing Cyd, saving your data from X and/or Facebook, deleting what you want from those platforms, and migrating your data to Bluesky/Mastodon. If there's interest, this workshop will also cover getting started with Cyd development environment, discussion about how Cyd's black magic works, and discussion about the worker-owned Lockdown Systems Collective.

Speakers: Micah Lee, redshiftzero, Yael Grauer
Location: Workshop C / Tobin 223

11:00 AM: (Make Your Very Own IoT Cat Lamp With WLED!)

Want to create a beautiful, Wi-Fi controllable LED cat lamp? In this workshop, you'll put together a "Purrsheen" cat shaped Wi-Fi lamp that allows you to control your adorable cat baby via Home Assistant with WLED. This workshop teaches about rapid prototyping and open-source, Internet-controlled LED art.

Speakers: Kody Kinzie
Location: Script Kitty Village

1:00 PM: (Learn Beginner Soldering With the Meow Mixer Badge)

Want to learn how to solder? Learn about circuits and soldering while creating your own interactive, color-tuning cat badge with the Meow Mixer! In this class, you'll solder together a light-up, cat-themed badge that teaches a simple RGB tuning circuit. By turning the red, green, or blue knob, you can adjust the color of the cat's eyes. Perfect for beginners and soldering experts wanting to make a fun and cute badge.

Speakers: Michael Raymond
Location: Script Kitty Village

4:00 PM: (Solder Your Own Cat-Themed Wi-Fi Hacking Tool)

Test out your through-hole and surface mount soldering skills to create your own open-source, cat-themed hacking tool. In this workshop, you'll create a microcontroller-powered hacking tool that allows students to perform bad USB attacks, Wi-Fi attacks, control hardware with CircuitPython, and more!

Speakers: Felix Orozco
Location: Script Kitty Village

11:00 AM: (Lockpick Village With Lockpick Extreme (Day 1))

Locks are puzzles you can solve without the key! Explore the fun world of locksport with Lockpick Extreme. Learn to lockpick from friendly instructors or practice what you already know with their assortment of locks and picks. When you're done, you can shop at their pop-up shop and take your new hobby home with you.

Speakers: Bob Hermes, Christine Bachman, Daniel Finegold

Location: Lockpick Village

Villages

10:00 AM: (Anarchist Village (Day 1))

A space for anarchists, abolitionists, anti-authoritarians, other like-minded folks, and friendly faces to meet and socialize - where hacking and technology are tools for total liberation. There will be freely available swag like zines and stickers, and possibly more.

Speakers: kworker

Location: Villages (Merillac Terrace)

10:30 AM: (Badge Village (Day 1))

Badge, badge, badge! Bring your badges old and new to the HOPE_16 Badge Village. This mystical space will serve as a gathering spot for folks to work on their HOPE XV badge - or badges from any hacker con. Feel free to showcase the badge hacking you have implemented on your once basic builds and share your expertise with the group. From Human to Eldritch Master, come one, come all! Dust off ye ole badge that's been waiting patiently to have all systems go since it can't remember when.

If you are the lucky owner of last year's HOPE badge and haven't yet begun the hacking process, the Badge Team has some recommendations to speed your ascension! If you want to develop in the way that the HOPE badge producers do, please install ESP-IDF for the ESP32-C3 and read "Get Started ESP-IDF" beforehand. And don't forget to bring your computer and a USB-C cable that is capable of data transfer!

Sadly, while there will not be a new production of the improved HOPE badge in time for the con to be shared with HOPE_16 attendees, it is anticipated some folks will be returning with their hackable HOPE XV badges. Much development work has occurred since last summer, and the Badge Team is looking for fresh minds to continue the effort. So bring it and get to hacking - because, as they say, it takes a village!

Speakers: Unnamed user

Location: Villages (Merillac Terrace)

11:00 AM: (Blockathon Digital Escape Room (Day 1))

The Blockathon is a digital censorship/shutdown environment, presented as a gamified CTF experience. It is a technical obstacle course and an awareness raising exhibit, exploring the realities faced by users around the world facing Internet shutdowns. Participants are challenged to break out from the virtualized network environments over a series of levels of increasing complexity.
This Village is led by:
Dmitri Vitaliev (Bio: https://equalit.ie/about-us/#team-member-37619)
and
Jeremy Yen (Bio: https://equalit.ie/about-us/#team-member-37662)

Speakers: Unnamed user

Location: Villages (Merillac Terrace)

11:30 AM: (Fediverse Village (Day 1))

The Fediverse Village is the place for social web hackers to get together at HOPE. Stop by to meet Fediverse developers, learn about protocols and platforms, and participate in conversations about the future of open social networking systems. On Saturday at 2 pm, there will be a workshop on Fediverse governance, including how to set up network cooperatives to run social networks. On Sunday at 2 pm, there will be a Fediverse mini-hackathon for developing new and extending old protocols and platforms.

Speakers: Unnamed user

Location: Villages (Merillac Terrace)

12:00 PM: (Hackerspace Village (Day 1))

The Hackerspace Village is organized by some of New York City's local hackerspaces. They are all nonprofit and 100 percent volunteer-run.

NYCResistor has been in operation since 2007 and has been a hacker clubhouse with open weekly hack and craft nights, as well as holding workshops and classes on many topics. Their space in Boerum Hill is home to many tools, components, doodads and art, and has been a welcoming community for all.

Hack Manhattan is a place for people to come together and socialize, work on projects, and share knowledge. They welcome anyone interested in art, craft, and technology. Whether you're interested in electronics or gardening, textiles or 3D printing, you're invited to come, work, and be part of the community.

Fat Cat Fab Lab since 2013 has been a hub for artists, students, engineers, hobbyists, startups, and meetups to gather and grow through 3D printing, laser cutting, CNC routing, sewing, electronics, photography, and more.

The hackerspace formerly known as Woodbine is also participating.

This is the village to learn about upcoming workshops, meetups, and parties. Talk about hackerspace design patterns. Swap stories about projects and organization strategies in case you want to join a hackerspace or start your own!

Speakers: Bufo

Location: Villages (Merillac Terrace)

12:30 PM: [Ham Radio Village (Day 1)]

The mission of the Ham Radio Village is to deliver high-quality and innovative amateur radio related educational content, hands-on experiences, and license testing sessions online and in-person. The more people know about amateur radio, the more safe, secure, functional, and innovative our wireless products, services, and experiments will be.

Learn how you can join the team of dedicated volunteers responsible for generating all new research, giving talks and demonstrations at events, building and testing experiments, as well as offering support to the general ham radio community.

Speakers: Unnamed user
Location: Villages (Merillac Terrace)

1:00 PM: [Toilets on the Air Contest (Day 1)]

Toilets on the Air (TOTA) is an exciting new contest for licensed radio amateurs during HOPE_16. Compete to make the most voice, CW, and digital contacts with other attendees for points and awards like "Worked All Toilets." Use the TOTA web site hope-16.totawatch.de to announce which of the designated restrooms you're outside of and log your contacts. Search the HOPE wiki for "TOTA" to get more info.
Activity organized by N2YCR, an amateur radio club affiliated with the NYC Resistor hackerspace in Brooklyn.

Speakers: Unnamed user
Location: Villages (Merillac Terrace)

Day 2

Talks

10:00 AM: (StickTock.com: An Open-Source Alternative in the Age of Digital Protectionism)

The threatened U.S. ban on TikTok represents a turning point in global digital policy, reflecting the rise of "data tariffs" - restrictions on the movement of information modeled after traditional trade barriers. While concerns over privacy and national security have fueled the decision, the move also aligns with economic protectionism that benefits domestic tech giants. The fallout from this policy shift could further fragment the global Internet, leading to retaliatory restrictions against American firms and diminishing access to diverse digital platforms worldwide.
In response, privacy advocates and open-source developers have taken action. StickTock.com is a free and open-source frontend for TikTok, designed to allow users to access and share TikTok content without invasive tracking, advertisements, or the need for a proprietary app. Built by the team at PrivacySafe, StickTock.com is hosted in Iceland - a jurisdiction with strong commitments to Internet freedom and privacy. Their mission is to demonstrate that digital independence and free speech can thrive in the face of restrictive policies.
This talk will delve into the development of StickTock.com as a case study in open-source innovation as a means of circumventing censorship and preserving privacy. The challenges of building privacy-first digital alternatives, the broader implications of government-imposed digital barriers, and the future of decentralized platforms will be explored. In an era where the free flow of information is increasingly under threat, open-source solutions offer a critical pathway toward digital resilience and user autonomy.

Speakers: Sean O'Brien

Location: Marillac Auditorium

11:00 AM: (Hacking the Tech-Industrial Complex: Learning to See Invisible Systems)

The author of more than 20 international bestsellers gives us an inside view of the systems that drive our culture. Every dominant system works to maintain itself, and we can find strategies and stories that push to make things better.

Speakers: Seth Godin
Location: Marillac Auditorium

12:00 PM: (Ask the EFF)

This year, the Electronic Frontier Foundation (EFF) will be returning to HOPE for a special "Ask the EFF" panel to address some of the pressing questions the hacker community has in these troubled times. Panelists will provide updates on current EFF work, including the ongoing case against the "Department" of Government Oversight, educating the public on their digital rights, organizing communities to resist ongoing government surveillance, and more. The panel will then turn it over to attendees to pose questions and receive insights on how users can protect their civil liberties online during an increasingly volatile political and world situation.

Speakers: William Budington, Lena Cohen, Cara Gagliano, José Martinez
Location: Marillac Auditorium

2:00 PM: (How Law Enforcement Agencies Compromise Entire Encrypted Chat Platforms)

Law enforcement agencies compromising entire encrypted communication platforms to read peoples' messages is no longer an outlier. It is the new normal. That includes the FBI taking a tech startup called Anom and inserting its own backdoor, French authorities pushing a malicious update to tens of thousands of EncroChat devices, European cops hacking another company called Sky, or any of the increasing number of related cases. In this talk, Joseph Cox, co-founder of 404 Media and author of Dark Wire will detail police tactics, pulling from his nearly ten years of covering the encrypted phone industry.

Speakers: Joseph Cox

Location: Marillac Auditorium

3:00 PM: (Not Your Private Army: On the Trail of Cyber Ops)

During the past two decades, hacktivist spaces have been infiltrated and co-opted by hostile interests, ranging from state actors to political and corporate entities and entitled oligarchs. This talk examines how these outside parties have attempted to build private cyber armies and task forces through the recruitment and exploitation of gray and black hat hackers. Special focus is given to the "Anonymous" brand, Western state actors, and the 2022 Russian invasion of Ukraine.

Speakers: Emma Best

Location: Marillac Auditorium

4:00 PM: (Both Sides of the Wire: Surveillance, Whistleblowing, and Building a Cyber Peace Movement)

As a former CIA officer who exposed the agency's torture program, John Kiriakou paid the price with his freedom. In addition to disclosing wrongdoing, he understands surveillance from the inside. This talk brings together that firsthand knowledge with a challenge to the hacker community: we must pursue a cybersecurity model rooted in cooperation, transparency, and peace rather than conflict.
This talk will explain how today's digital ecosystems - including both software and hardware - are vulnerable not only to technical compromise but also to political manipulation. The threats we face are not just from malicious actors or hostile governments, but from within our own systems. Co-opted code, opaque procurement processes, and surveillance-by-design continue to erode public trust. It is time to reclaim the hacker ethos and direct it toward a global cyber peace movement. Here you will learn why hackers, technologists, and civil society must lead this effort, and how the only sustainable security is one built collaboratively, with integrity and purpose.

Speakers: John Kiriakou

Location: Marillac Auditorium

9:00 PM: (Phrack Magazine #72 - 40th Anniversary Release Party)

Celebrate 40 years of legendary hacking with Phrack Magazine! Netspooky and TM2 will be dropping a special hardcopy release of their magazine, packed with cutting-edge research, underground insights, and tributes to decades of digital rebellion. Don't miss this milestone issue - crafted by the hackers for the hackers. Free, of course, as always. Grab your copy, meet the crew, and honor the zine that deAned an era.
The talk will explain a bit about Phrack's history, how it all started, and where it's going - the vision of the new editorial staff and how Phrack is changing. You will get a rare insight into what it takes to run an underground hacking magazine. You'll learn what it's like to work with the many authors, reading and Axing articles, dealing with obscure submissions, and what it takes to get your article accepted and become an author in Phrack.
For the Arst time ever, a "secret challenge" has been included in the hardcopy magazine for you to And and to solve. The prize for the winner will be revealed at the talk.

Speakers: Netspooky, TM2

Location: Marillac Auditorium

6:00 PM: (Solving My Identity Crisis)

Traditionally, Internet accounts are controlled by the service providing them. There is no 'number portability' for email addresses. Switching costs discourage service changes. Recently, Bluesky has disrupted this model and 32 million users now use account names based on the Internet identity infrastructure, DNS - names that users can register and control directly through DNS handle providers.
This presentation will describe three standards proposals extending this approach. @nywhere extends the authentication approach to allow DNS handle accounts to be used at any Internet resource, not just those running ATprotocol. @nyone combines the DNS handle approach with JSContact to provide account portability and secure exchange of credentials for end-to-end secure communication. @nything allows network connected devices to become true Internet things with an Internet DNS name, WebPKI credentials, and using @nywhere and @nyone to support access control.

Speakers: Dr. Phill Hallam-Baker
Location: Marillac Auditorium

7:00 PM: (DIY Police Scanner With SDRs and Open Source Software)

Police accountability requires transparency, but access to relevant information is frequently hindered by collaborators in government or the police themselves. Fortunately there is one source of info we can take into our own hands: their radios. Police in the United States largely use the digital, trunked radio system "Project 25." We can listen in to this using spare computers, a few Software Defined Radios (SDRs), and open source software. Even better, we can go far beyond what very simple broadcastify-style dispatch streams offer, like having our own archives of radio traffic. Based on an actual system that sees real-world use, this talk will cover how to set up your very own DIY police scanner. Ansible playbooks and supporting scripts to streamline the process will be released, and practical tips and lessons for real-world applications of such a system will be covered.

Speakers: nop
Location: Marillac Auditorium

8:00 PM: (When the Lawman Comes Calling - Government Data Demands and Online Platforms)

Drawing on over a decade of experience, this talk will first introduce the statutes, rules, and concepts governing law enforcement requests for user data, ranging from basic subpoenas to secret FISA search warrants. From that foundation, the discussion will cover practical steps that web services and individual users can take to reduce their legal attack surface, minimize their risks, and maximize their protection from invasive data disclosures.

Speakers: Fred Jennings
Location: Marillac Auditorium

9:00 PM: (From Activism to Hacktivism: Resisting Digital Repression)

This panel discussion will offer insights into the challenges faced by human rights defenders and hacktivists in today's context of intensified digital repression, including surveillance, censorship, and cyberwarfare. The three panelists will report from the frontlines, sharing their technical expertise and experiences living among activists and supporting them in their work in different countries. Topics will include hacktivism in Ukraine, disrupting surveillance in Serbia and Thailand, and tech and reproductive rights in the USA and worldwide. Each panelist will briefly share their stories and insights, and then the discussion between them and the audience will be opened.

Speakers: Gabrielle Joni Verreault, Elina Castillo-Jimnez, Jane Eklund, Ken Mayers
Location: Marillac Auditorium

10:00 PM: (Hackers Got Talent)

It just wouldn't be HOPE without another installment of "Hackers Got Talent." This is an opportunity for hackers from all around the planet to show off their talents in this cheeky display of hacker (and totally non-hacker) skills. Just sign up at InfoDesk and the talent you decide to share is entirely up to you. (Seriously, anything you're good at is a talent.) Hacker archivist Jason Scott will again be on hand to keep everything moving. Judging will be done by a combination of panelists and audience members. First place wins a valuable prize! Second place... we'll see.

Speakers: Jason Scott

Location: Marillac Auditorium

10:00 AM: (Offworld Voyage: Can Training for Mars Exploration Also Address Human Adaptation to Climate Biodevastation on Earth?)

This talk will present the design philosophy behind Offworld Voyage, a decentralized science initiative that develops ecologically sustainable training habitats for use in simulated Mars surface exploration missions - while also solving for adaptation to extreme climate change on Earth. The Offworld Voyage M.A.R.S. Tesseract Space Analog Simulation Habitats were designed with a zero waste ethos for minimal environmental impact by inventor Scott Beibin and Michael Flood. The modular and portable structures of the habitats include: a bio-dome for cultivating organic vegan plant-based and fungi-based nutrition sources, autonomous power production, advanced waste reclamation, a science laboratory for experimentation and research, a space medicine bay, a fabrication lab for prototyping and repair, facilities for fitness and creativity as well as a kitchen and living quarters.
Mission immersions incorporate a vision of the future when space has become accessible to all through the use of emerging ecologically sustainable appropriate technologies enabled by new types of egalitarian economic structures and coordination methods. Crew activities include EVA explorations in pressurized space suits outfitted with bio-sensors, 3D printed construction using regolith, utilization of open source communications tools, cooperative governance exercises and the practice of mutual aid and consensus decision-making in mission planning, problem-solving and self-sufficiency challenges in the face of extreme resource scarcity, simulated time-delayed communications, and experiments to analyze the effects of isolation on astronauts during offworld missions.
The inaugural mission for the M.A.R.S. Tesseract habitats will occur in a remote desert location in late 2028. It will include the founders of the project, Scott Beibin and Elizabeth Jane Cole, who are both alumni of the Mars Desert Research Station (Mission 286) and core committee members of The Journal for Space Analog Research.
Future plans for the project include the development of pressurized facilities and closed loop systems, as well as development of public goods including hardware and software for Space Analog Research and S.T.E.A.M-based educational programs.

Speakers: Scott Beibin, Elizabeth Jane Cole

Location: Little Theatre

11:00 AM: (rim: Reclaiming Personal Data Sovereignty in the Age of Wearables)

As we approach a future where body-worn devices capture increasingly intimate biometrics, the question of who controls that data has never been more urgent. This talk introduces rim, a techno-social vision and set of protocols challenging the standard model of cloud-based data extraction by building tangible, person-to-person systems for storing and sharing potentially intimate live data streams, innovating at the edge of taboo to expand human connection while preserving privacy and autonomy. There will be a demonstration of early prototypes of wearable devices implementing an "SD-core" aesthetic and detailing the technical underpinnings of protocol concepts including data "dissolution" and "crystallization" with erasure coding and intermittent connection tolerance. Beyond technical implementation, the presenters will discuss how this paradigm shift creates space for entirely new forms of human-to-human connection at the boundary of what's technically possible and socially acceptable.

Speakers: Dana Gretton, Jaguar Kristeller

Location: Little Theatre

12:00 PM: (Aging Cyber Safely)

This presentation asks how we can better care for our older adults and improve cybersecurity awareness training and policies with their needs in mind. American adults over the age of 60 filed over 100,000 cybercrime-related complaints to the FBI in 2023 and experienced losses amounting to $3.2 billion. Older adults are the most vulnerable to cybercrime, and studies have found they feel ashamed to disclose having been victims. Although important initiatives exist, such as AllState's training sessions on cyber safety and AARP's free fraud helpline, there's a noticeable shortage in relevant resources. This research examines emerging cybersecurity awareness resources and policies supporting older adults, drawing from interviews with FINRA and the Identity Theft Resource Center (ITRC). It also presents findings from the cybersecurity awareness initiative founded by the presenters: the Cyber Care Institute, recently introduced to four organizations and over 100 students in New York City.

Speakers: Laura Sang Hee Scherling, Josefina Piddo

Location: Little Theatre

1:00 PM: (Hacking Search: Kagi's Revolt Against the Ad-Tech Machine)

You know the drill: search for official travel info, get an overcharging third-party site. Look for a hotel, get a misleading aggregator. "Free" search costs you time, money, and trust. Kagi is the revolt - a paid, obsessively user-centric search engine architected to serve you, not the advertisers. This session reveals how Kagi sidesteps the surveillance model, leveraging diverse sources and AI tools (under your control) to deliver clean, customizable results. Founder Vlad Prelovac will detail the tech choices enabling genuine user agency (blocking SEO garbage, elevating trusted sources via filters), the challenge of building viable alternatives outside the ad-tech ecosystem, and the fight to restore user agency against data-hoarding monopolies. If you're tired of being the product on the web, join the resistance.

Speakers: Vladimir Prelovac

Location: Little Theatre

2:00 PM: (HOPE_16 Badge - No Badge, No Problem)

Electronic badges have become a focal point of hacking conferences and key to growing the immersive conference experience! This talk will provide a brief history of electronic conference badges, as well as discuss the good, the badge, and the ugly from the speakers' attempt at a new and improved production run this year. Sadly, while there will not be a new production of the improved HOPE badge in time for the con to be shared with HOPE_16 attendees, this will still be a lively discussion of everyone's favorite badges from past hacking conferences. The design and production challenges that inevitably cropped up will be discussed in detail. The struggle to produce a working badge aligning both funding and functionality is real. This year has been no exception, with various uncertainties such as tariff's and geopolitical norms at play. Despite the challenges, many lessons have been learned. This is an opportunity to plan for a future run, share experiences with others, and get more interested individuals to join the team and get involved.

Speakers: Victoria Joh, Vinicius Fortuna
Location: Little Theatre

3:00 PM: (Systems of Dehumanization: The Digital Frontlines of the War Against Bodily Autonomy)

This presentation covers the years of security research and surveillance investigations that Daly (a senior staff technologist at the Electronic Frontier Foundation) has done on the various threats facing movements for bodily autonomy. She covers the bad Internet bills that made sex work more dangerous, the ongoing struggle for abortion access in America, and the persecution of trans people across all spectrums of life. These issue-spaces are deeply connected, and the digital threats they face are uniquely dangerous. Come to learn about these threat models, as well as the cross-movement strategies being built for collective liberation against an authoritarian surveillance state.

Speakers: Daly Barnett
Location: Little Theatre

4:00 PM: (Back to Basics: Building Resilient Cyber Defenses for Multiple Use Cases)

In spite of novel cybersecurity threats, digital security advice has remained largely unchanged in recent years. In fact, a lot of advice in response to high-profile attacks doesn't actually address risks people are most likely to face. This talk will analyze several high-profile digital security concerns, whether viral advice to address it would have been effective, and what steps could be taken - both before and after the issue arises. You will hear of lessons learned from years of auditing and updating Security Planner, a digital security guide that provides customized plans based on responses to a few survey questions. The presentation will further delve into ways to segment digital security advice so that it's personalized to the individual, their devices, their technical capabilities, and the type of risks they're likely to face.

Speakers: Yael Grauer
Location: Little Theatre

5:00 PM: (Zodiac Killer Marketing: How I Used Codes, Cyphers and Nefarious Means to Launch a Covert Food Business)

During the pandemic, Adam launched Galactic MegaStallion, a new vegan food business, but decided traditional marketing was boring and morally icky. Instead, he created an elaborate system of codes, cyphers, a mysterious hotline, and strategically (and illegally) placed billboards that led curious people to And his food through coordinates. This presentation will cover how and why he developed this unconventional marketing approach, and how breaking traditional marketing rules and business conventions actually built a delighted customer base.

Speakers: Chef Adam Sobel
Location: Little Theatre

6:00 PM: (Leading and Survival When TSHTF - A Lighthearted Look at the End of the World)

There's a moment when you realize that yes, everything may actually be on fire. As individuals, we can collapse, or we can take action to at least increase the odds of a positive outcome. As leaders (managers, parents, friends), we have to hold it together, fight to create safe spaces, keep our teams motivated, and somehow find time for self-care - without letting an active adversary turn us into the human equivalent of burnt toast.
This talk will explore the art of leading in the midst of chaos, drawing on a punk ethos, irreverent humor, and a sprinkling of practical advice. You'll see how to preserve diversity and inclusion when everything feels like it's falling apart, how to support your team without losing your mind, and why it's okay to cry in the shower (just not every day).

Speakers: George Sandford
Location: Little Theatre

7:00 PM: (The Future of Email Is Open)

Email is one of our most essential tools, yet it's controlled by a handful of corporations that scan, monetize, and gate-keep our communication. In this talk, the presenters will introduce OpenEmail, a ground-up re-imagining of async communication built on a radically simple, open protocol. Designed for privacy, integrity, and interoperability, OpenEmail combines end-to-end encryption; decentralized delivery; and a public, extensible architecture to give users true ownership of their communication, and developers the freedom to build on top of an open social protocol. They will explore how a spam-free, surveillance-free inbox, where messages are trustworthy by design, can reclaim the Internet as a space for open, human connection, free from Big Tech. More than just a talk, this is a call to arms: to take back control of our communication and build a digital future that serves people, not profit.

Speakers: Dejan Štrbac, William Lessard
Location: Little Theatre

8:00 PM: (Bridging the Decentralized Gap: Shared Hacker Values, Cypherpunk Roots, and the Future of Blockchains)

This panel will delve into the deep-rooted connections between hacker and cypherpunk culture and the evolution of Ethereum and blockchain technology, tracing their shared emphasis on decentralization, privacy, and open-source principles. By revisiting the historical context of the 1990s Crypto Wars and projects like PGP and Tor, the discussion will highlight how these early movements laid the groundwork for the vision of a trustless, user-sovereign Internet. The panel also will aim to debunk common misconceptions that associate blockchains solely with scams or speculation, showcasing real-world applications such as the Ethereum Name Service and privacy-preserving technologies, while emphasizing the ecosystem's pivot towards public goods and accessibility. Ultimately, the conversation will underscore the enduring, collaborative vision of both hacker and blockchain communities - advancing censorship resistance, user empowerment, financial privacy, and a decentralized digital future.

Speakers: AlexanderUrbelis, Phil Daian, Harry Halpin
Location: Little Theatre

9:00 PM: (Computational Techniques For Making Karaoke Harder)

Robot Karaoke is a live comedy show that swaps lyrics with fragments of text drawn from a catalog of esoteric datasets (quora questions, web banner ads, tax forms, and more) to create and sing never-before-sung karaoke songs. This talk covers how the data is sourced, how the songs are phonetically annotated, and how the show is run and the core software (the Weird Algorithm) developed. The presentation will end with a demo of the future of karaoke.

Speakers: Jamie Brew
Location: Little Theatre

10:00 PM: (Neon Edge and Detour The Lover)

Neon Edge (Scott Burgert) will take the stage to reimagine hidden cosmic records as rhythmic sonic artifacts by putting together songs from scratch in front of the audience. Accompanied by live-programmed visuals, the performance will become an immersive journey that pushes beyond the conventional boundaries of music and sound.
To cap the electronic beats, Detour The Lover (Troy VanDerlofske) will deliver his raw emotional songwriting live vocally. His lyrics are vivid and equate to experiencing the feelings we bear within but do not express.
In addition to the performance, Neon Edge and Detour The Lover will also be hosting a discussion on their creation and production process. They will be talking about how the live show and visuals merge and how they work on writing and producing their music.
instagram: @neonedgemusic
soundcloud: neonedge

11:30 PM: (A History of Music: From Handel to House)

Randy Naraine will play 30 minutes of music on piano starting from 1729 and ending in the year 2029 in a single medley. Each song will flow into the next one, passing through various styles, decades, composers, and musicians. Randy was a music teacher before working in cyber. Exposing students to various styles of music was one of the most fulfilling parts of that job. He hopes to recreate this on stage. (The medley song list will be shared via QR onstage.)
For the last part of the performance, Randy will take shoutouts from the audience of different themes, emotions, styles, tempos, etc., and try to do a live improvisation of three pieces based on the most common suggestions.
Randy is the manager of cybersecurity engineering at JetBlue Airways, based in Queens. He has been to 91 countries and all 50 states, often traveling with a MIDI controller to create music based on surroundings in every corner of the earth. He is passionate about cybersecurity, particularly defense automation, security data analytics, aircraft security, human exploits and defenses, and digital forensics. He plays around New York City at various venues throughout the year and loves to perform while interacting with the public. He believes music and the arts are needed to balance the often intense world of cybersecurity and technology.

10:00 AM: (Things You Wish You Knew About Software Testing)

Everybody agrees that software testing is important, but how does one actually go about accomplishing this efficiently? Here is a presentation about testing that has actual examples, immediate tools that can be used, and some really interesting and unexpected ways that code can break. This is a fast moving presentation discussing techniques in a way that both coders and non-coders can learn.

Speakers: Dan Nagle
Location: Tobin

11:00 AM: (Build a Tech Community in Your Neighborhood, One Hackathon at a Time)

This talk chronicles the journey of creating a vibrant tech community through short, accessible two-hour mini-hackathons that lower barriers to participation. The speaker shares their experience of building Flushing Tech's successful bi-weekly hackathon program, and provides a practical roadmap for you to try this at home in your own neighborhood. Leave with actionable guidelines for starting similar initiatives that emphasize the importance of creating an inclusive environment that welcomes participants of all skill levels while maintaining enough technical focus to drive meaningful project development. This talk is ideal for community organizers, tech enthusiasts, and anyone interested in fostering grassroots innovation in their local area.

Speakers: William Hutson
Location: Tobin

12:00 PM: (Top Ten: Democratic Open Source Software Defined Radio and Amateur Radio Applications That Matter Today)

A major benefit of the widely used open source Git platform is every project is voted on by its followers, making selection easy for what is the most popular and worth paying attention to. This presentation focuses on the top voted applications focused around software defined radio, as well as amateur "ham" radio. Time only permits the top ten to be covered. This is a great way to showcase how diverse these two crossover topic areas have become in recent years. Some projects are purely software-based while others are a mix of open source hardware plus software. High level coverage of these amazing projects will be included, but will be explored in more depth as part of a separate hands-on workshop during HOPE_16, making this presentation a must attend for anyone interested in radio-related topics!

Speakers: Steve Bossert

Location: Tobin

1:00 PM: (Unearthing Air)

Breathing polluted air is an unfortunately common human experience. Yet even as particulate matter settles in our lungs and occupies our minds more than ever, most of us lack the words and abilities to create better breathing environments.
This talk will invite the HOPE community to develop personal and proactive approaches to the air we breathe by bringing it down to earth. Air is invisible, but very material and personal. This talk demonstrates hacking opportunities in the tools we traditionally use to sense, measure, and make air make sense. The presenter will dive into communication tools like the air quality index, open source sensors, and the emerging ethics of community air quality monitoring.
Importantly, everyone will come away with fresh frameworks and tools they can use to begin designing their personal pollution priorities.

Speakers: Todd Whitney

Location: Tobin

2:00 PM: (Design for Neurodiversity: Creating Neuro-Inclusive Spaces)

This talk will explore the concept of neurodiversity and its implications for designing events and spaces with neurodivergent people's diverse needs in mind. The neurodiversity paradigm promotes embracing neurological differences, emerging from the autistic rights and disability justice movements of the 1990s. Accessibility guides and resources rarely focus on neuro-inclusive design. The presentation will highlight strategies for creating neuro-inclusive environments informed by research in education, including examples such as low-sensory rooms in libraries and conferences. Attendees will be encouraged to reflect on how neuro-inclusive design can benefit the communities they engage with.

Speakers: Dorothy Howard

Location: Tobin

3:00 PM: (Invisible Ink of Compression)

When you pop the hood of RFC 1951 (DEFLATE), there lies an interesting playground that would be otherwise unseen in the context of compression use cases. This talk will address many aspects of the ubiquitous DEFLATE compression, none of which involve compressing data! "Designer Compression" scenarios will be explored, such as blocks of DEFLATE data that can be fully ASCII printable, contain no data, buffer underflow access of nulls, and even apply forms of recursion. We will also see forensic data extraction from compressed fragments, employ difficult to detect watermarking, demo a covert channel PoC (deflate in http), and forever-cookies. The presentation style will take a high-level first pass and then dig into the technical details with the time left.

Speakers: XlogicX

Location: Tobin

4:00 PM: (The Free Software Movement: Where It Came From, What It Means to Me, and What It Could Mean to You)

This talk is the journey of Craig's discovery of the free software movement and how it solved his need to find a position in the fight for a better tomorrow. The hope is to inspire others to share this viewpoint of free software and to see how it is a critical factor for civilization if we want to avoid the nightmare dystopia which awaits us all if the free software movement fails.

Speakers: Craig Topham
Location: Tobin

5:00 PM: (Piracy Is the Past, Present, and Future of Streaming)

Official ratings of TV viewership and box office revenues for films never tell the whole story of how people access popular media texts and instead promote platforms or corporations. Many millions around the world consume media through unofficial channels, especially peer-to-peer (P2P) file-sharing networks. In this session, you will be introduced to alpha60, an ongoing research project with six years of TV and film distribution data that reveals trends and oddities in global media desire. The speakers will present data on the quantity, timing, and location of downloads for major television series and films, offering data on unofficial global audienceship and speculating on new insights about cultural circulation, transnational belonging, and fandom.

Speakers: Abigail De Kosnik, Benjamin De Kosnik
Location: Tobin

6:00 PM: (Cracking Enigma: A Chronology of Cryptographic Breakthroughs)

The Enigma machine was a sophisticated encryption device used by Nazi Germany during World War II. Its mechanical design utilized three rotors that scrambled plaintext into complex ciphertext, with additional layers of security from unique internal settings. However, inherent weaknesses and poor operational procedures left it vulnerable to cryptanalysis. The first successful attacks on Enigma were conducted by Polish mathematicians in the early 1930s. By exploiting repeating message indicators and rotor cycle patterns, they deduced rotor wirings and constructed replica Enigma machines. Their breakthroughs enabled systematic decryption until German countermeasures in 1938 forced new approaches. Alan Turing and his team at Bletchley Park refined these methods, pioneering statistical techniques and mechanical computation to accelerate decryption. Techniques such as Banburismus and the Good-Turing estimation method were created under Turing's leadership. The development of the Bombe machine allowed rapid elimination of incorrect rotor settings, enabling the Allies to decipher vast amounts of enemy communication. This presentation will focus on history and cryptography, examining how breaking Enigma provided critical intelligence that shaped Allied strategies and shortened the war by an estimated two years, saving millions of lives in one of humankind's most significant intelligence operations.

Speakers: Brais Macknik-Conde

Location: Tobin

7:00 PM: (Hacking For Social Justice)

"How can my hacking skills become a force for advancing social justice?" Those who ponder this question often know what they're up against - oppression, inequality, enshitification.... But the path toward building meaningful change can feel unclear or overwhelming. This talk draws from years of experience working alongside activists, human rights defenders, and digital organizers, and offers a practical framework for lasting, meaningful change. You'll gain social impact strategies that will help you align your technical skills with the movements and communities you care about. If you've ever felt the call to do more - with purpose, with clarity, with community - this is your invitation.

Speakers: Danacea Vo

Location: Tobin

8:00 PM: (Communication and Movement in Internet Shutdown Protests: Rethinking Mesh Messaging)

2024 was the worst year for Internet shutdowns ever recorded, with nearly 296 documented events across 54 countries. Frequently imposed during protests and times of unrest, shutdowns are commonly used as a tactic to suppress dissent and restrict communication. Mesh messaging is widely hailed as a potential workaround, yet these tools are generally considered unreliable, untrusted, and ultimately go unused. Mesh systems depend heavily on the spatial relationships between nodes, but existing research on how people move and communicate in protest settings is sparse. This talk explores a holistic approach to mesh tool design, grounded in qualitative firsthand experiences to build effective blackout-resistant mesh tools.

Speakers: Cora Rowena Ruiz

Location: Tobin

9:00 PM: (Expanding the BioArtBot Color Palette - A Beginner's guide to Lab Automation and Biosafety)

bioartbot.org/ is a project for encouraging curiosity in microbiology and lab automation through creative expression. It is an open source project built on a pipetting robot that draws user submitted pixel art by placing colored bacteria on agar. Using the story of the BioArtBot development as a guide, this talk will provide a basic overview of the technologies (hardware, software, and wetware) implemented in the BioArtBot. It will describe how lab automation is used in biotech companies, how it might be used by amateur/community investigators, and how the BioArtBot is an interesting framework to contribute to if you are looking to skill-up in lab automation. It will also describe how the living pigments for this project were created and sourced, how you might create/source your own, and the amazing diversity of living chemical refineries that are bacteria. So if you're interested in robots and bacteria, come find out how we can command our tireless inorganic creations to deposit aesthetically pleasing arrangements of the ancient form-factor of all life.

Speakers: Danny Chan
Location: Tobin

Workshops

11:30 AM: (A Little Boost: Making Your Guitar Sing With One Knob)

In this workshop, you will be building a JFET-based clean boost using a J201 transistor. This circuit amplifies your guitar signal without changing its tone too much - just more of your sound, louder and richer. You'll bias the JFET transistor so it sits in its sweet spot - ready to take your guitar's signal and gently boost it. A few capacitors clean up the power and remove unwanted DC. The potentiometer controls the output level, so you can go from a subtle push to a strong lead boost with just one knob. By the end of this build, you'll not only have a killer boost circuit - you'll also understand how and why it works. So come by and bring your tone to life!

Speakers: Joe Vella
Location: Workshop A / Tobin 219

1:00 PM: (rim: Design SD-Core Jewelry and Wear Your Visualized Signal Message History)

Ever wondered what your message history reveals about your communication patterns? This workshop teaches you to extract and visualize your own Signal message history using open-source tools, keeping your data entirely on your local machine while exploring patterns like messaging frequency, vocabulary usage, and communication habits. You'll also practice democratic design to explore techniques for message history analysis, wearable self-data collection concepts, and definitions of SD-core. With various chains, clips, and jewelry-making supplies available, the presenters will help you store your visualized message history self-data on a micro-SD card that you can craft into a piece of jewelry! Bring your own micro-SD or purchase one from the workshop at cost. You can subvert the extractive data economy and flaunt your independence from the Data Giants one fashionable piece at a time.

Speakers: Jaguar Kristeller, Dana Gretton
Location: Workshop A / Tobin 219

3:30 PM: (Learn to Solder With "I Can Solder" Badge Kit)

Anyone can learn to solder! It is useful and fun. This workshop is for **kids of all ages** (and anyone of any age). Learn to solder by making a cool badge that you can wear and blink wherever you go. The "I Can Solder!" badge kit is a very simple open hardware kit that anyone can use for learning to solder. There will also be a fun overview of how it works. This workshop is for **total newbies** to learn to solder.

Speakers: Mitch Altman
Location: Workshop A / Tobin 219

5:00 PM: [Getting Started With ESPHome: From Zero to Cool]

This hands-on workshop introduces participants to ESPHome, an open-source platform for integrating ESP32 microcontrollers with home automation systems. Participants will learn the fundamentals of configuring ESPHome YAML files to control inputs and outputs, connect to Wi-Fi, enable remote access, perform over-the-air (OTA) updates, integrate with Home Assistant, and add external sensors or components. Attendees will walk away with the knowledge to create their own simple IoT solutions using ESPHome. No programming or soldering skills are required, making this workshop highly accessible to beginners and anyone curious about home automation.

Speakers: Vinicius Fortuna

Location: Workshop A / Tobin 219

7:00 PM: [Digital Music Synthesis/Solder Workshop With ArduTouch Synth Kit]

Learn to solder together a way cool, powerful music synthesizer - and learn how to make cool music, sound, and noise with a computer chip! For total beginners. Participants will learn to solder well for life, learn the basics of digital signal processing, and bring home a working performing music synthesizer that is Arduino compatible, open-source, and has a touch-keyboard and a built-in speaker/amp.

Speakers: Mitch Altman

Location: Workshop A / Tobin 219

10:00 PM: (Synth Meetup)

This is an invitation to get together and geek out over music synthesizers, music synthesis, making sound, and creating music. Hardware, software - anything goes! All are welcome to come and talk synths, play synths, share projects, learn, and share. Some attendees have made their own synths at workshops at HOPE_16 - please bring them! Please feel free to bring any synth or sound-making device. Everyone welcome - no need to bring anything but your interest in music, sound, and noise!

Speakers: Mitch Altman
Location: Workshop A / Tobin 219

11:00 AM: (Designing and Building a Watch Face For an E-ink Watch)

This workshop walks through the steps in designing and building a watch face for Watchy - an open source E-ink watch. Learn about the software libraries and tools used, design considerations, and caveats of working with E-ink displays. If you're interested in E-ink technology and have always wanted to learn more to build your own project, check out this workshop! The Watchy hardware will be provided for you to keep.

Speakers: Wailun
Location: Workshop B / Tobin 221

12:30 PM: (Hacking Network APIs)

A foundational component of communication between devices is the TCP/IP network stack. Web browsing, streaming video, secure control, and innumerable other applications are built upon this technology. This 3-part demonstration will use open source tools to focus on the data transfer components UDP and TCP while targeting an IoT device. Part 1 is reverse-engineering the network commands to better understand them and then mimic it (a common attack strategy). Network protocols will be discussed during this process. Armed with our new knowledge and skills, part 2 will take them a step further to discover and analyze malware present on the IoT device. Part 3 will cover fundamentals of network latency vs network throughput by forced network degradation. This presentation is light on slides and heavy on demos.

Speakers: Dan Nagle

Location: Workshop B / Tobin 221

3:00 PM: (Hacker Public Radio - Why You Should Listen and Contribute)

Hacker Public Radio (hackerpublicradio.org) is a community podcast that run five days a week. It is dedicated to sharing knowledge and has been running in various forms for nearly 20 years. Anyone who has anything that is of interest to hackers is welcome to submit a show. Some of the topics/skills that will be covered are: listening, participating, recording.

Speakers: murph

Location: Workshop B / Tobin 221

6:00 PM: (Evaluating a Program's Free Software Licensing)

This workshop involves walking participants through an evaluation process of a computer program's licensing in order to determine if it is free software or not. This is not a master class on evaluating licenses for a mega-corporation, nor is it legal advice, and is not designed for lawyers. This is a grass roots level computer program evaluation process to determine if a program is licensed adequately to be called free software. Along the way, a reviewer may discover licensing issues or proprietary code files. They would then be in a position for sending suggestions to the project in order to resolve potential problems.

Speakers: Craig Topham
Location: Workshop B / Tobin 221

8:00 PM: (Dread Hacks)

This workshop will turn existential dread into mischief with hardware and software tools. Issues will be talked about, often linked to tech advancement that makes us depressed about the future. Prototypes will be created for simple art projects (electronic or not) that comment on these issues. Old hardware will be repurposed into creative tools, prototypes built that make us laugh, and you will hopefully collaborate with people who share your dread to blend technical skills with artistic expression.

Speakers: Annika Santhanam
Location: Workshop B / Tobin 221

11:00 AM: (Get Your Amateur (Ham) Radio License in a Single Day)

This workshop will teach attendees what they need to know to pass the Technician class amateur radio license exam and get started in amateur radio. It includes six hours of instruction, with the exam administered immediately after the workshop.
It is sometimes said that radio amateurs were the original hackers, cobbling together transmitters and receivers from odds, ends, and discarded electronics. Radio amateurs continue this tradition today, and in addition to building their own gear, they're hacking on digital communications systems, including both hardware and software. Amateur radio is a great hobby for electronics enthusiasts and, increasingly, for hardware and software hackers. Participants will increase their chances of passing the test if they download the study guide from www.kb6nu.com/study-guides/ and familiarize themselves with the material before coming to the workshop. The text for this workshop is Dan's No Nonsense Technician Class License Study Guide. The PDF version of the study guide is available for free at the above page. EPUB and print versions are also available for a small charge.

Speakers: Dan Romanchik, Nicole Adams, Ed Wilson
Location: Workshop C / Tobin 223

7:30 PM: (Red vs. Blue: Malware - Build It, Break It, Block It)

Unleash your inner hacker and defender in this hands-on workshop! Dive into the dark art of crafting Windows and Linux rootkits, then switch gears to learn malware analysis and reverse engineering of those rootkits. This workshop will go from static analysis with tools like Binary Ninja and DetectItEasy to dynamic analysis decrypting payloads and extracting critical IoCs. It doesn't stop there - you'll build detection rules with tools like YARA, ClamAV, OSQuery, OSSEC, OpenEDR, and Snort signatures to hunt down those rootkits. Cap it off by integrating your defenses into Elasticsearch and Kibana dashboard. Perfect for aspiring red and blue teamers to learn over a dozen different open-source tools.

Speakers: Scott Cook
Location: Workshop C / Tobin 223

12:00 PM: (Build Your Own Meshtastic Node: Off-Grid, Encrypted LoRa Meshnets for Everyone!)

Beginners can now create off-grid, encrypted mesh networks for cheap, with applications in emergency communication, sensor monitoring, and more. These mesh networks have been popping up in cities all over the world, and this class will go over everything a beginner needs to run or build their own nodes. If you've ever wanted to legally create off-grid, encrypted mesh networks that can span over a hundred miles, you can get started with building Meshtastic nodes! This workshop will serve as a beginner user's guide to Meshtastic, covering everything from hardware building to software configuration and modules. You will create custom Meshtastic nodes, set them up to transmit, and explore the built-in modules and how they work. Attendees will learn to solder their own Nibble Meshtastic nodes, select antenna options, configure software, and deploy their own weather-sensor nodes.

Speakers: Kody Kinzie

Location: Script Kitty Village

3:00 PM: (Wi-Fi Hacking Self-Defense for Beginners)

This workshop offers hands-on instruction using a unique, cat-shaped Wi-Fi hacking microcontroller, the Wi-Fi Nugget. Designed to engage participants in practical learning, essential skills for defending against four common, yet powerful Wi-Fi attacks will be covered. Participants will explore topics like detecting Wi-Fi leaks, the risks of QR codes leading to hidden networks, spotting phishing networks, and defending against advanced Wi-Fi karma attacks. The Wi-Fi Nugget is a powerful tool for understanding and fighting back against Wi-Fi hacking. This workshop is suitable for Wi-Fi hacking experts and those just getting started.

Speakers: Kody Kinzie

Location: Script Kitty Village

6:00 PM: (Meshtastic For Hackers: Set Up, Configure, and Deploy Nodes For Advanced Applications)

Meshtastic is a long range, encrypted, off-grid mesh protocol that features many powerful modules, configurations, and settings. For beginners just getting started, it can be confusing to dive into these features. In this workshop, you'll explore the exciting modules that make Meshtastic more fun and useful. You'll learn how to customize the encryption, add hardware like GPS and sensors, and change the default transmission settings to adapt to specific environments. Attendees will learn to customize their Meshtastic nodes for any situation using the built-in modules and settings. You'll also learn about attacks against Meshtastic, and how to get involved in your local area!

Speakers: Kody Kinzie
Location: Script Kitty Village

10:00 AM: (Lockpick Village With Lockpick Extreme (Day 2))

Locks are puzzles you can solve without the key! Explore the fun world of locksport with Lockpick Extreme. Learn to lockpick from friendly instructors or practice what you already know with their assortment of locks and picks. When you're done, you can shop at their pop-up shop and take your new hobby home with you.

Speakers: Bob Hermes, Daniel Finegold, Christine Bachman
Location: Lockpick Village

Villages

10:00 AM: [Anarchist Village (Day 2)]

A space for anarchists, abolitionists, anti-authoritarians, other like-minded folks, and friendly faces to meet and socialize - where hacking and technology are tools for total liberation. There will be freely available swag like zines and stickers, and possibly more.

Speakers: kworker
Location: Villages (Merillac Terrace)

10:30 AM: [Badge Village (Day 2)]

Badge, badge, badge! Bring your badges old and new to the HOPE_16 Badge Village. This mystical space will serve as a gathering spot for folks to work on their HOPE XV badge - or badges from any hacker con. Feel free to showcase the badge hacking you have implemented on your once basic builds and share your expertise with the group. From Human to Eldritch Master, come one, come all! Dust off ye ole badge that's been waiting patiently to have all systems go since it can't remember when.

If you are the lucky owner of last year's HOPE badge and haven't yet begun the hacking process, the Badge Team has some recommendations to speed your ascension! If you want to develop in the way that the HOPE badge producers do, please install ESP-IDF for the ESP32-C3 and read "Get Started ESP-IDF" beforehand. And don't forget to bring your computer and a USB-C cable that is capable of data transfer!

Sadly, while there will not be a new production of the improved HOPE badge in time for the con to be shared with HOPE_16 attendees, it is anticipated some folks will be returning with their hackable HOPE XV badges. Much development work has occurred since last summer, and the Badge Team is looking for fresh minds to continue the effort. So bring it and get to hacking - because, as they say, it takes a village!

Speakers: Unnamed user
Location: Villages (Merillac Terrace)

11:00 AM: [Blockathon Digital Escape Room (Day 2)]

The Blockathon is a digital censorship/shutdown environment, presented as a gamified CTF experience. It is a technical obstacle course and an awareness raising exhibit, exploring the realities faced by users around the world facing Internet shutdowns. Participants are challenged to break out from the virtualized network environments over a series of levels of increasing complexity.
This Village is led by:
Dmitri Vitaliev (Bio: https://equalit.ie/about-us/#team-member-37619)
and
Jeremy Yen (Bio: https://equalit.ie/about-us/#team-member-37662)

Speakers: Unnamed user

Location: Villages (Merillac Terrace)

11:30 AM: [Fediverse Village (Day 2)]

The Fediverse Village is the place for social web hackers to get together at HOPE. Stop by to meet Fediverse developers, learn about protocols and platforms, and participate in conversations about the future of open social networking systems. On Saturday at 2 pm, there will be a workshop on Fediverse governance, including how to set up network cooperatives to run social networks. On Sunday at 2 pm, there will be a Fediverse mini-hackathon for developing new and extending old protocols and platforms.

Speakers: Unnamed user

Location: Villages (Merillac Terrace)

12:00 PM: (Hackerspace Village (Day 2))

The Hackerspace Village is organized by some of New York City's local hackerspaces. They are all nonprofit and 100 percent volunteer-run.

NYCResistor has been in operation since 2007 and has been a hacker clubhouse with open weekly hack and craft nights, as well as holding workshops and classes on many topics. Their space in Boerum Hill is home to many tools, components, doodads and art, and has been a welcoming community for all.

Hack Manhattan is a place for people to come together and socialize, work on projects, and share knowledge. They welcome anyone interested in art, craft, and technology. Whether you're interested in electronics or gardening, textiles or 3D printing, you're invited to come, work, and be part of the community.

Fat Cat Fab Lab since 2013 has been a hub for artists, students, engineers, hobbyists, startups, and meetups to gather and grow through 3D printing, laser cutting, CNC routing, sewing, electronics, photography, and more.

The hackerspace formerly known as Woodbine is also participating.

This is the village to learn about upcoming workshops, meetups, and parties. Talk about hackerspace design patterns. Swap stories about projects and organization strategies in case you want to join a hackerspace or start your own!

Speakers: Bufo

Location: Villages (Merillac Terrace)

12:30 PM: [Ham Radio Village (Day 2)]

The mission of the Ham Radio Village is to deliver high-quality and innovative amateur radio related educational content, hands-on experiences, and license testing sessions online and in-person. The more people know about amateur radio, the more safe, secure, functional, and innovative our wireless products, services, and experiments will be.

Learn how you can join the team of dedicated volunteers responsible for generating all new research, giving talks and demonstrations at events, building and testing experiments, as well as offering support to the general ham radio community.

Speakers: Unnamed user
Location: Villages (Merillac Terrace)

1:00 PM: [Toilets on the Air Contest (Day 2)]

Toilets on the Air (TOTA) is an exciting new contest for licensed radio amateurs during HOPE_16. Compete to make the most voice, CW, and digital contacts with other attendees for points and awards like "Worked All Toilets." Use the TOTA web site hope-16.totawatch.de to announce which of the designated restrooms you're outside of and log your contacts. Search the HOPE wiki for "TOTA" to get more info.
Activity organized by N2YCR, an amateur radio club affiliated with the NYC Resistor hackerspace in Brooklyn.

Speakers: Unnamed user
Location: Villages (Merillac Terrace)

Day 3

Talks

10:00 AM: (Bureaucracy Hacking - Creating Organizational Exploit Chains for Good)

At their core, all bureaucracies are, fundamentally, information systems, containing the ability to store information, compute information, and share information over a network. This means they all can be hacked. In this funny, enriching, and ultimately inspirational talk, the concept of "bureaucracy hacking" will be discussed as a way to make a difference in any organization of any size, even (perhaps most especially) when you feel like "just a cog in the machine." The talk will be suitable for a novice audience of any background, with high level references to traditional information security, hacking, and of course social engineering principles. What will make it unique and interesting will be particular emphasis on the exploitation of the emergent and unique properties of bureaucracies. It will be most actionable by young, idealistic entrants into the workforce. And, it may yet inspire the younger versions of ourselves inside each of us that our (warranted) cynicism has led us to ignore or forget (at our peril). Stories will come from the speaker's (and others') experiences at organizations like Meta, the U.S. Department of Defense, the U.S. Navy, and others. It is intended as a rebuttal to, and toolkit for, countering "Pournelle's iron law of bureaucracy."

Speakers: Adam L. Hesch

Location: Marillac Auditorium

11:00 AM: (Hacking the Future at Tesla Science Center)

The year 2026 marks the 170th birthday of Nikola Tesla and will also be the year that the grounds of his Wardenclyffe laboratory will at last open to the public. Learn about the latest goings-on from Tesla Science Center at Wardenclyffe detailing their visitor center renovation and opening; development of their amateur radio station and radio club; expansion of their public and educational programming with space science courses, events, and hackathons; a future hackerspace; and more exciting projects!

Speakers: Michael Caprio, Jeffrey Velez, Ed Wilson

Location: Marillac Auditorium

12:00 PM: (Counter-Surveillance as Activism: Using Cameras Against State Violence in Israel/Palestine)

Palestinian, Israeli, and international anti-occupation activists in Israel/Palestine have been using cameras to deter and document violence from Israeli security forces and settlers for around two decades. Human rights organizations first started distributing cameras in the mid-2000s to facilitate documentation, and today, essentially every anti-occupation activist in the West Bank and Jerusalem carries some combination of video cameras, smartphones, and body cameras to deter and document state-settler violence. The activists also take it upon themselves to take the videos to journalists, human rights organizations, courts, and elsewhere; recently, this activism was the focus of the Oscar-winning documentary No Other Land. This talk will describe how activists organize, what happens to the footage, how this activism changed after October 7th, and what this all means for thinking about counter-surveillance as a strategic response to state violence.

Speakers: Aman Abhishek

Location: Marillac Auditorium

1:00 PM: (The Computer Underground Scene - Past, Present, and Future)

This is a brainstorming session together with the audience. The panel will talk and unravel a bit about the past and present, and try to find a shared vision of where we are or should be heading.

Speakers: Netspooky, TM2, Skyper, John Threat, Bill Budington
Location: Marillac Auditorium

3:00 PM: (How to Be Positively Transgressive: Hacking Culture For Good)

In an era where transgression has been co-opted by reactionary forces, how can we reclaim subversion as a tool for positive change? Historically, countercultures, hackers, and artists have used disruption to challenge power structures, expose hypocrisy, and expand the boundaries of what is possible. Yet today, the same methods - culture jamming, media pranks, and ideological infiltration - are increasingly wielded by ultra-right movements to erode democratic values and spread reactionary narratives.
This talk will explore how we can re-hack the hacker mindset: How can we use transgressivity in ways that are constructive rather than destructive? How do we subvert without merely burning things down? Can we retool the aesthetics and tactics of countercultural rebellion to push society forward instead of backward?
Through historical examples, personal experiences, and a healthy dose of mischievous strategy, this talk will try to outline actionable ways to engage in cultural hacking that disrupt oppressive systems while reinforcing community, inclusivity, and progressive values. Because giving up on the tools of subversion means surrendering the battlefield. And that, phreaky phriends, is not an option.

Speakers: Johannes Grenzfurthner
Location: Marillac Auditorium

4:00 PM: (ICEBlock and the Age of Digital Activism)

Learn how ICEBlock has empowered over a million users nationwide to report immigration and customs enforcement activities anonymously, despite government pushback. Discover how you can use your tech skills to drive change and advocate for causes you believe in. Plus, stick around for a Q&A session where you can interact directly with the creator!
This talk will be remote due to the targeting of the speaker by the current administration.

Speakers: Joshua Aaron
Location: Marillac Auditorium

6:00 PM: (HOPE_16 Closing Ceremonies)

Nothing lasts forever and that even applies to HOPE (the conference, not the concept). We will reminisce about what happened this weekend as if it was a decade ago. And we can guarantee there will be many fun stories to share. If you're really lucky, you'll get to help us clean up!

10:00 AM: (Quantum Computing and AppSec: Preparing for the Post-Quantum Threat)

Quantum computing is poised to disrupt modern cybersecurity. With the potential to break widely used encryption algorithms, such as RSA and ECC, quantum threats pose a significant risk to web applications, APIs, and secure communications. This talk provides an introduction to quantum computing for application security professionals, outlines the threats to current AppSec practices, and explores how organizations can begin transitioning to post-quantum cryptography (PQC). Attendees will leave with an understanding of the timeline, tools, and strategies required to prepare for the post-quantum world.

Speakers: Sheshananda Reddy Kandula
Location: Little Theatre

11:00 AM: (Print, Build, Fly, Heal: 3D-Printed Autonomous Planes For Medical Delivery in Rural Mexico)

This talk focuses on a project with medical students in Alamos, Sonora, Mexico to develop affordable delivery drones that can get urgent medical supplies to remote communities. What currently takes days to reach by mule through mountainous terrain can hopefully be accomplished in minutes by air. This talk chronicles the evolution from off-the-shelf hobby planes to locally-built, 3D-printed aircraft capable of autonomous waypoint missions. The speakers will discuss the technical choices behind their current $1000 prototype (and how they plan to cut costs in half), alongside the organizational structure they're developing to sustain this work. Recently, they established "club guilas" with local medical students - one of whom has completed pilot training for the test aircraft. The biggest challenges faced aren't the technical ones, but rather organizational sustainability: how to transition from a project driven by visiting engineers to one owned and operated by local communities. Plans will be shared for creating a federated network of university clubs, and the blueprint for a lean nonprofit structure to support them.

Speakers: Dana Gretton, Jaguar Kristeller

Location: Little Theatre

12:00 PM: (Bitcoin Poker: Satoshi's Lost Game and Its Decentralized Revival)

Bitcoin v0.1.8, the last version personally coded by Satoshi Nakamoto, contains curious references to poker buried in its source code. While never officially documented, these fragments suggest that Bitcoin's original design may have envisioned more than just money; it may have included decentralized, trustless gaming. This talk will explore the historical and technical significance of these lost poker references, analyzing: What was Satoshi's intent? Was this an abandoned feature, an experiment, or an overlooked function of Bitcoin's game-theoretic design? How was poker referenced in early Bitcoin?
There will be a deep dive into the code archaeology of v0.1.8 and why poker may have been included. The presentation will also include the introduction of Bitcoin Poker, a modern Rust-based reimagining of trustless, peer-to-peer poker, demonstrating how we can host fully decentralized poker games without a centralized server, use multi-signature escrows for provably fair betting and payouts, ensure post-quantum security for long-term cryptographic safety, and implement a sidechain execution model to handle high-frequency transactions without bloating the main chain.

Speakers: Mattias Bergstrom

Location: Little Theatre

1:00 PM: (New Journalism: Reimagining Information Networks From the Ground Up)

This presentation explores how communities are developing resilient information-sharing systems that outperform traditional journalism. Drawing from research on independent journalism in China, Patrick will examine how these organic networks function as advanced social technologies that challenge conventional understanding of information distribution. The talk invites the HOPE community to reimagine information infrastructure that can withstand authoritarian control, resist corporate manipulation, and genuinely serve community needs through collaborative problem-solving and the application of security expertise in distributed systems.

Speakers: Patrick Boehler
Location: Little Theatre

2:00 PM: (NymVPN: The First Real-World Decentralized Noise-Generating Mixnet for Anonymity)

Nym is the first decentralized noise-generating mixnet to provision real-world network anonymity to Internet users even against nation-state adversaries. The aim here is to supersede existing VPNs in order to fight increasingly more powerful authoritarianism and surveillance. Unlike traditional centralized VPNs that can be de-anonymized by a global passive adversary - like the NSA - based on their traffic patterns, Nym adds noise ("cover traffic") to existing Internet communications. Similar to Tor, Nym routes each packet separately over a decentralized network of servers, but unlike Tor, mixes traffic and adds noise at each hop. After being introduced at HOPE five years ago, NymVPN has now shipped. NymVPN is an easy to use app for all major operating systems that makes using the Nym network as easy as using a traditional VPN for ordinary people, with both a "fast" and "anonymous" mode. The "fast" mode features speeds comparable to centralized VPNs using the same decentralized network as the mixnet, but without mixing. Via the SDK, the Nym mixnet remains free to use by hackers to build the next generation of privacy infrastructure.

Speakers: Harry Halpin
Location: Little Theatre

3:00 PM: (The ARTS Open Framework)

Over the past several decades, the scientific process has relied more and more on computational analysis of data to produce digital artifacts. Fields like molecular biology, neuroscience, linguistics, and astrophysics, to name a few, have been revolutionized by this trend to the point that computational workflows are ubiquitous. Although most of these workflows are very similar at a high level - collecting data, analyzing it with code, and publishing the resulting figures - implementation details differ widely.
While there exist standards such as the FAIR Guiding Principles for organizing and sharing data, there are not widely adopted standards for reliably regenerating analyses from said data, especially across compute environments. This talk presents an open framework for archived, reproducible, and transparent science (ARTS) that aims to do exactly this - by packaging data, code, and figures in containers and uploading it to a persistent, trusted, and accessible archive.

Speakers: Sabar Dasgupta
Location: Little Theatre

4:00 PM: (The Political and AI Singularity Are Inevitable - Or Are They?)

America's transition from a literary society to one shaped by social media and AI has revolutionized how we communicate, process information, and engage politically. AI's conversational nature deepens this shift, influencing culture and cognition. This talk will explore these new realities and provide insights into how to navigate them.

Speakers: Roel Schouwenberg
Location: Little Theatre

9:00 PM: (AI Is Undermining Our Privacy. What Can We Do About It?)

We've been grappling with evolving issues around online privacy for years now, but the recent burst in use of AI or LLMs (large language models) has quickly introduced new and sometimes alarming privacy concerns for both users and those creating AI experiences to consider. This talk will take a look at six specific areas where AI is undermining privacy and discuss what, if anything, we can do about them.
The six areas to be discussed are: lack of transparency with data sharing, accidental exposure of personal data, reversing data anonymization, deceptive design patterns, AI listening in everywhere, and malicious misuse of AI.
To end on a constructive note, eight guidelines that designers and developers can follow to ensure they're focusing on privacy when working with AI will be discussed.

Speakers: Robert Stribley
Location: Little Theatre

10:00 AM: (RDP Spray and Pray: Research on Modern RDP Attacks From Spray to Exploit)

RDP has been around the block for a while. Since 1998, admins shudder at the mere mention of port 3389. It's anything but old-hat, though - even today, there are a lot of active attack methods and adaptations for the modern world. This talk will be going through the world of RDP attacks from the perspective of an attacker, a defender, and us - the researchers and engineers. Some mass RDP attack data will be showcased, along with how to identify, label, and further prevent these attacks in the future.

Speakers: Tess Mishoe
Location: Tobin

11:00 AM: (The Trials and Tribulations of Building Your Own Phone)

Over the last two decades digital surveillance has become baked into our daily lives. Your current and past location, who you're in contact with, habits/interests, sensor data, and a trove of other personal information is constantly being sent to third parties by the smartphone that is nearly always carried on us. What would it look like if we reconsidered the mobile phone entirely, putting extra emphasis on privacy and intentional disconnection via open source hardware and software? This talk will follow Wesley's journey to do just that, starting at the conception of the idea, getting acquainted with mobile networks/operators, obtaining proprietary datasheets, designing hardware, failed/successful prototypes, the current state of the project (along with demos), and how any interested parties can get involved.

Speakers: Wesley Appler
Location: Tobin

12:00 PM: (The Shape of the Legal Battlefield for InfoSec Professionals at Work)

It is no secret that sometimes there can be tension between InfoSec professionals and the organizations that they work for. Security professionals spend their days (and sometimes nights and weekends as well) buried in the dirty laundry that others pretend does not exist. These tensions can bubble up in unexpected ways. As an InfoSec professional, what are the common legal concerns that you need to be aware of at work? How do these challenges change over time? What should you keep in mind when considering a new job?

Speakers: Ken Vedaa
Location: Tobin

1:00 PM: (ATM Hacking: Past and Present)

This talk explores the evolution of ATM hacking, from classic physical attacks to modern software exploits, using two real-world case studies. Roman will demonstrate how cybercriminals bypass security measures and why banks often stay silent. Attendees will see a live demo of a custom "Rusher device" built for a tabletop coin dispenser (reverse-engineered from eBay), highlighting vulnerabilities in cash-handling systems.

Speakers: Roman Pushkin
Location: Tobin

2:00 PM: (Exploiting Emergent Property-Based Vulnerabilities in Large Language Models)

As AI technology expands across both benign and malicious applications, our understanding of the attack surface must evolve to account for emergent properties in complex systems. In large language models, these emergent behaviors create novel classes of vulnerabilities that are not only unpatched, but largely unrecognized. By systematically manipulating the model's limited perception of reality, attackers can induce cascading failures that go far beyond traditional filter bypasses, exposing fundamental weaknesses in the internal logic and contextual binding of these systems. This session will unpack how these vulnerabilities work, walk through real examples, and explore the far-reaching implications for AI security, governance, and safety.

Speakers: David Kuszmar
Location: Tobin

3:00 PM: (How I Used and Abused LLMs to Get Top 250 on HTB)

This talk explores an experiment in giving AI system-wide access to compete on Hack The Box (HTB). The talk details the development of a semiautonomous workflow for capture the flag (CTF) competitions, involving jailbreaks, LLM switching, and hardware. Through iterative diagrams, the talk traces how the workflow evolved as the AI improved at capturing flags. This presentation considers how this CTF solving AI slop might extend to real world scenarios like penetration testing, red teaming, and bug bounty hunting.

Speakers: Rambo Anderson-You

Location: Tobin

4:00 PM: (Planning a Project That Has No Budget)

Projects are notoriously hard for developers to manage even with project managers, budget limits, and deadlines. Often in hacking and civic tech, we are our own PMs, funders, and timekeepers, which means projects can simultaneously have no budget and unlimited budget. Since a community is not paying for a particular feature, they have no "I think we've reached where we want to stop spending" moment, so when is something done? It doesn't cost our coworkers to ask for more features, so when are they asking too much? Travis will talk about his experiences as a professional nonprofit legal aid developer and as a volunteer project lead to explore what's helped him when working with nebulous conditions around specific requirements.

Speakers: Travis Southard

Location: Tobin

9:00 PM: (The Struggle For Connection in a Fragmented World: Rebuilding Third Spaces)

Third spaces - those vital, informal gathering places between home and work - have long been central to hacker culture, but they're vanishing. This talk will explore why third spaces matter more than ever for connection, creativity, and counterculture, and how we can rebuild them in a world increasingly fragmented by gentrification, digital monopolies, and social isolation. From hackerspaces to IRC to local meetups, Jack will trace our roots and offer ideas for rekindling authentic community, both online and off.

Speakers: Jack Gangi
Location: Tobin

Workshops

12:00 PM: (LED Strips Everywhere For Everyone!)

Learn how to light up LED strips with a cheap Arduino and make your life trippy and beautiful! For total beginners - no knowledge needed at all. LED strips have become really inexpensive. And many people have created easy methods of controlling the color and brightness of individual LEDs in LED strips. This workshop will show you one easy and fun way to control LED strips, and to make them do what you want. You'll learn everything you need to know to use existing Arduino programs - and how to hack Arduino programs - to control the colors in your world with LED strips.

Speakers: Mitch Altman
Location: Workshop A / Tobin 219

2:00 PM: (Intro to Mathematics of Signal Processing)

The mathematics behind signal processing is beautiful, useful, and approachable with a pre-calculus level of math. This workshop will go over a wide variety of useful signal processing topics that will surely be useful in your hacking journey! Fundamental mathematical tools will be explored, with an emphasis on visual demonstrations such as Fourier analysis (DFT and FFT), convolution, and linear systems.

Speakers: Kevin Baragona
Location: Workshop A / Tobin 219

11:00 AM: (How to Make Herbal Medicinal Teas to Support Heath and Wellbeing)

Make and drink tea from different herbs, learn about these herbs from an organoleptic and phytochemical perspective, and discuss different ways to prepare herbal remedies. Introduce herbal allies for nervous system regulation, stress, and sleep - especially for tech and digital workers. There will be a tea tasting with basics ingredients. Making tinctures, flower essences, and/or essential oils may be touched upon.

Speakers: Meredith
Location: Workshop B / Tobin 221

12:30 PM: (Voice-Activated Terminal and OpenSaysMe: Privacy-Centric Tools for the Future)

This hands-on workshop introduces attendees to OpenSaysMe, a voice-activated terminal launcher using offline AI models, and PrivacySafe Chat, a secure chat application leveraging 3NWeb protocols. Participants will learn to set up voice recognition tools, launch terminal commands via voice, and explore secure, metadata-minimizing communication through PrivacySafe Chat over 3NWeb's federated approach. By the end, participants will have functional, privacy-first applications on their devices.

Speakers: Marcia Wilbur

Location: Workshop B / Tobin 221

11:00 AM: (Book Binding (part 1))

Learn how to design and create your own book from start to finish. Explore different binding techniques, paper selection and preparation, cover design and materials, basic bookbinding tools and their uses, and most importantly take part in a discussion of archival materials, documentation, and preservation.

Speakers: Annika Santhanam

Location: Workshop C / Tobin 223

2:00 PM: (Book Binding (part 2))

Learn how to design and create your own book from start to finish. Explore different binding techniques, paper selection and preparation, cover design and materials, basic bookbinding tools and their uses, and most importantly take part in a discussion of archival materials, documentation, and preservation.

Speakers: Annika Santhanam

Location: Workshop C / Tobin 223

12:00 PM: (Learn Bad USB Hacking With the Bluetooth Nugget)

In this workshop you'll learn to write bad USB scripts to automate computer hacking using a cute, cat-themed hacking tool called the Nugget. You'll learn to write scripts to get computers of any operating system to do your bidding in seconds, and how to automate nearly any desired action remotely through its Wi-Fi interface. If you're looking for an introduction to simple scripting that's a little more spicy, this class is for you!

Speakers: Kody Kinzie
Location: Script Kitty Village

3:00 PM: (Cat-Shaped Wi-Fi Defender: Hands-on Hacker Hunting With Microcontrollers)

Want to become a Wi-Fi investigator? You can uncover hidden cameras, network intruders, and more with the Wi-Fi Nugget! In this workshop you'll use a cute, cat-shaped microcontroller board to catch hackers using common Wi-Fi hacking tools like a Wi-Fi Pineapple, hunt down suspicious Wi-Fi devices like hidden cameras, and detect jamming attacks. Attendees will explore how low-cost microcontrollers can be used to unmask and track down Wi-Fi hacking tools, or locate unwanted devices intruding on your local network.

Speakers: Kody Kinzie
Location: Script Kitty Village

10:00 AM: (Lockpick Village With Lockpick Extreme (Day 3))

Locks are puzzles you can solve without the key! Explore the fun world of locksport with Lockpick Extreme. Learn to lockpick from friendly instructors or practice what you already know with their assortment of locks and picks. When you're done, you can shop at their pop-up shop and take your new hobby home with you.

Speakers: Bob Hermes, Daniel Finegold, Christine Bachman
Location: Lockpick Village

Villages

10:00 AM: [Anarchist Village (Day 3)]

A space for anarchists, abolitionists, anti-authoritarians, other like-minded folks, and friendly faces to meet and socialize - where hacking and technology are tools for total liberation. There will be freely available swag like zines and stickers, and possibly more.

Speakers: kworker
Location: Villages (Merillac Terrace)

10:30 AM: [Badge Village (Day 3)]

Badge, badge, badge! Bring your badges old and new to the HOPE_16 Badge Village. This mystical space will serve as a gathering spot for folks to work on their HOPE XV badge - or badges from any hacker con. Feel free to showcase the badge hacking you have implemented on your once basic builds and share your expertise with the group. From Human to Eldritch Master, come one, come all! Dust off ye ole badge that's been waiting patiently to have all systems go since it can't remember when.

If you are the lucky owner of last year's HOPE badge and haven't yet begun the hacking process, the Badge Team has some recommendations to speed your ascension! If you want to develop in the way that the HOPE badge producers do, please install ESP-IDF for the ESP32-C3 and read "Get Started ESP-IDF" beforehand. And don't forget to bring your computer and a USB-C cable that is capable of data transfer!

Sadly, while there will not be a new production of the improved HOPE badge in time for the con to be shared with HOPE_16 attendees, it is anticipated some folks will be returning with their hackable HOPE XV badges. Much development work has occurred since last summer, and the Badge Team is looking for fresh minds to continue the effort. So bring it and get to hacking - because, as they say, it takes a village!

Speakers: Unnamed user
Location: Villages (Merillac Terrace)

11:00 AM: [Blockathon Digital Escape Room (Day 3)]

The Blockathon is a digital censorship/shutdown environment, presented as a gamified CTF experience. It is a technical obstacle course and an awareness raising exhibit, exploring the realities faced by users around the world facing Internet shutdowns. Participants are challenged to break out from the virtualized network environments over a series of levels of increasing complexity.
This Village is led by:
Dmitri Vitaliev (Bio: https://equalit.ie/about-us/#team-member-37619)
and
Jeremy Yen (Bio: https://equalit.ie/about-us/#team-member-37662)

Speakers: Unnamed user

Location: Villages (Merillac Terrace)

11:30 AM: [Fediverse Village (Day 3)]

The Fediverse Village is the place for social web hackers to get together at HOPE. Stop by to meet Fediverse developers, learn about protocols and platforms, and participate in conversations about the future of open social networking systems. On Saturday at 2 pm, there will be a workshop on Fediverse governance, including how to set up network cooperatives to run social networks. On Sunday at 2 pm, there will be a Fediverse mini-hackathon for developing new and extending old protocols and platforms.

Speakers: Unnamed user

Location: Villages (Merillac Terrace)

12:00 PM: (Hackerspace Village (Day 3))

The Hackerspace Village is organized by some of New York City's local hackerspaces. They are all nonprofit and 100 percent volunteer-run.

NYCResistor has been in operation since 2007 and has been a hacker clubhouse with open weekly hack and craft nights, as well as holding workshops and classes on many topics. Their space in Boerum Hill is home to many tools, components, doodads and art, and has been a welcoming community for all.

Hack Manhattan is a place for people to come together and socialize, work on projects, and share knowledge. They welcome anyone interested in art, craft, and technology. Whether you're interested in electronics or gardening, textiles or 3D printing, you're invited to come, work, and be part of the community.

Fat Cat Fab Lab since 2013 has been a hub for artists, students, engineers, hobbyists, startups, and meetups to gather and grow through 3D printing, laser cutting, CNC routing, sewing, electronics, photography, and more.

The hackerspace formerly known as Woodbine is also participating.

This is the village to learn about upcoming workshops, meetups, and parties. Talk about hackerspace design patterns. Swap stories about projects and organization strategies in case you want to join a hackerspace or start your own!

Speakers: Bufo

Location: Villages (Merillac Terrace)

12:30 PM: [Ham Radio Village (Day 3)]

The mission of the Ham Radio Village is to deliver high-quality and innovative amateur radio related educational content, hands-on experiences, and license testing sessions online and in-person. The more people know about amateur radio, the more safe, secure, functional, and innovative our wireless products, services, and experiments will be.

Learn how you can join the team of dedicated volunteers responsible for generating all new research, giving talks and demonstrations at events, building and testing experiments, as well as offering support to the general ham radio community.

Speakers: Unnamed user
Location: Villages (Merillac Terrace)

1:00 PM: [Toilets on the Air Contest (Day 3)]

Toilets on the Air (TOTA) is an exciting new contest for licensed radio amateurs during HOPE_16. Compete to make the most voice, CW, and digital contacts with other attendees for points and awards like "Worked All Toilets." Use the TOTA web site hope-16.totawatch.de to announce which of the designated restrooms you're outside of and log your contacts. Search the HOPE wiki for "TOTA" to get more info.
Activity organized by N2YCR, an amateur radio club affiliated with the NYC Resistor hackerspace in Brooklyn.

Speakers: Unnamed user
Location: Villages (Merillac Terrace)

https://schedule.hope.net/hope16/schedule

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$ typst --version
typst 0.13.1
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