

# Tech Curiosity Session 1 of 6

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# Welcome

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# Course Logistics

- This is CLR Course 301 - Tech Curiosity | Fall I
- Held each Wednesday, 9:25-10:40 a.m. via Zoom, but for those that want to get little more for their tuition money, Alan and Glen will be online around 9:00 a.m. each Wednesday before class.
- This is a dynamic (meaning you never know what we're going to talk about), interactive (we want to hear what's on your mind), and flexible (if you have a topic you want to research and talk about, you're welcome to take the stage) class.

# Course Etiquette

- Please join the Zoom session on time if you are able. Initially, you'll be in a Zoom waiting room if you join before 9:00 a.m. After that you should be able to join without waiting.
- When the session starts, everyone will be muted. If you would like to ask a question, please use the 'raise hand' icon (we'll show you where that is), and using the space bar to 'press and talk' is probably easiest.
- Come with questions, and ideas you would like to hear about in future sessions. Each week's agenda will be based on what you want to hear about (mostly). Sometimes it's what WE want to talk about too...

# Proposed Agenda

- First topic – rehash of breaking technology news
- Second topic – Presentation and discussion about things you said you would like to learn about, hear more about
- Closing topic – What's on your mind to next week's session

During the week, Alan and I will research topics you're interested in and have some material ready to discuss.

Also, if something comes to mind during the week that you didn't think of in class, please e-mail either of us and we'll include that in class.

# Technology in the News

- **ProtonMail was [criticized](#) for disclosing a French activist's IP address to Swiss authorities.** ProtonMail said the data request was "legally binding," adding that it had no option to appeal.
  - As a Swiss-based firm, ProtonMail is not subject to EU requests for data but must comply with Swiss courts.
- **El Salvador has [purchased](#) 200 bitcoins (\$10M), the country's President, Nayib Bukele, said on Monday.** El Salvador now owns 400 bitcoins and has officially become the first country in the world to accept bitcoin as legal tender.
  - El Salvador passed legislation to adopt bitcoin as its national currency, along with the U.S. Dollar, in [June](#).
  - El Salvador has allocated \$150M to a bitcoin trust to create bitcoin infrastructure and help its citizens exchange bitcoin and U.S. dollars.

# Technology in the News

Then this:

- **The price of BTC dropped ~10% today as El Salvador moves ahead with plans to accept Bitcoin as currency.** Today, as the price of Bitcoin dropped, President Bukele announced that his government bought 150 more BTC.
  - Citizens can use the government-run Chivo app to get the national ID needed to transact with BTC.
    - The government announced that anyone who creates an account on Chivo (which means "cool") will get US\$30 worth of BTC.
  - BTC transactions will not be subject to the country's capital gains tax.

# Technology in the News

- **Apple Watch Series 7 will be [released](#) alongside the new iPhone 13.** The release will take place during Apple's [virtual event](#) in September.
  - As of December 2020, over 100M people worldwide are estimated to use an Apple Watch, which was first released in April 2015.
- **Amazon will [launch](#) a self-branded TV featuring Alexa in the U.S.** The launch is targeted for as soon as October.
  - Amazon [launched](#) an AmazonBasics TV in India in Dec. 2020.
  - In 2019, Amazon [partnered](#) with TV manufacturers, including Toshiba, to sell co-branded TVs with its Fire TV software built-in.



# Technology in the News

- **Virgin Galactic announced plans to launch [Unity 23](#) in the fall.** The launch would be Virgin's first commercial flight.
  - Following the announcement, the FAA grounded any further Virgin take-offs until it finishes an investigation into system warnings during Unity 22.
- What was the issue the [FAA is investigating](#) with respect to the Unity 22 flight?
  - Virgin Galactic acknowledges July 11 flight deviated from cleared airspace.
  - FAA says the spacecraft may not fly pending investigation or determination about public safety.
  - Company pushes back against recent report about culture of safety at the company.

# Technology in the News

- **WhatsApp was fined [\\$267M](#) by EU privacy regulators for failing to disclose how it collects and shares users' data with Facebook.** The EU's privacy body ruled that WhatsApp violated Europe's privacy law, General Data Protection Regulation (GDPR).
  - GDPR was adopted in 2016 and implemented in 2018. It is a legal guideline for collecting and using personal data for people in the EU. Under the GDPR, privacy regulators can fine companies up to 4% of global revenues or \$24M, whichever is larger.
- What is [GDPR](#) anyway?
  - [GDPR](#) is the toughest privacy and security law in the world. Though it was drafted and passed by the European Union (EU), it imposes obligations onto organizations anywhere, so long as they target or collect data related to people in the EU. The regulation was put into effect on May 25, 2018. The GDPR will levy harsh fines against those who violate its privacy and security standards.

# Technology in the News

- **The White House launched the [U.S. Digital Corps](#), a two-year fellowship that aims to recruit early-career software engineers, data scientists, and other technologists to work in federal agencies.** The application process for the 30 fellowships will start in the fall and the fellowships will start in 2022.
  - Fellows will work in areas such as coronavirus response, economic recovery, and cybersecurity.

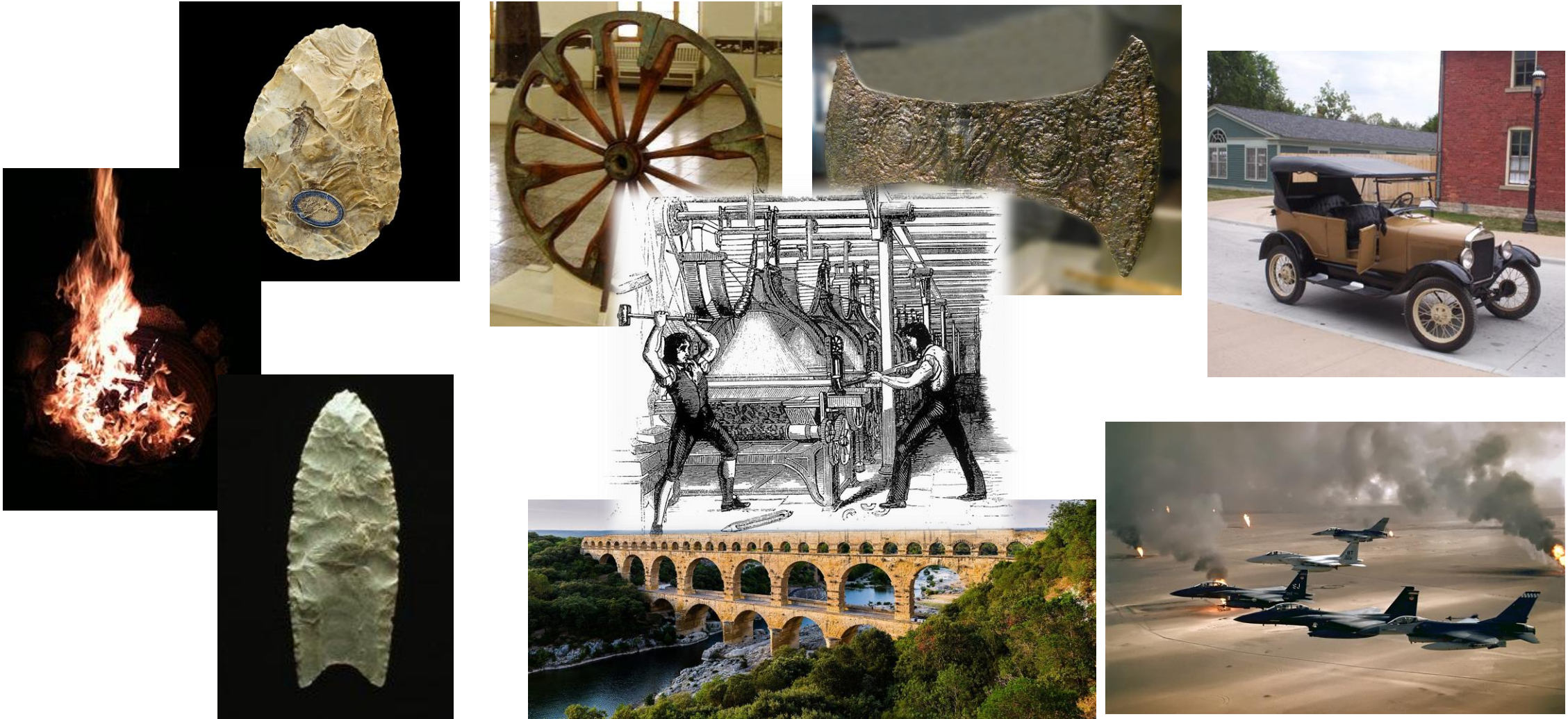
# Technology in the News

- **Chinese AI giant [SenseTime](#) will [move forward](#) with a Hong Kong IPO despite China's [crackdown](#) on the tech sector.** SenseTime claims to be the world's most valuable AI company.
  - The Trump administration blacklisted SenseTime in the U.S. in 2019, blocking it from buying products from U.S. producers or conduct business in the U.S.
  - SenseTime was blacklisted following allegations that the company had been involved with repression, arbitrary mass detention, and high-technology surveillance in Xinjiang, China.

# What is Technology?

- **Technology** - the sum of techniques, skills, methods, and processes used in the production of goods or services or in the accomplishment of objectives, such as scientific investigation.
- Technology Systems (e.g. machines) apply technology by taking an input, changing it according to the system's use, and then producing an outcome.

# Technology Through the Ages



# Technology and Physics

<b>Technology / Instrument/ Machine</b>	<b>Principle</b>
Hydroelectric Power	Conservation of energy
Heat Engines	Laws of Thermodynamics
Refrigerator	Laws of Thermodynamics
Electric Generator	Electromagnetic induction

# Technology and Chemistry

- Aggregation-induced emission
- Artificial intelligence applied to chemistry
- Dual-ion batteries
- High-pressure inorganic chemistry
- Liquid gating technology
- Macromonomers for better plastic recycling
- Microbiome and bioactive compounds
- Nanosensors
- Rapid diagnostics for testing
- RNA vaccines



# Technology and Biology

- Better cryo-EM samples
- Improving RNA analysis
- Decoding the microbiome
- Computing cancer
- Enhancing gene therapy
- Single-cell sequencing
- Linking genome structure and function

# Technology and Mathematics

- Structural mechanics
- Simulation, optimization, control theory, and statistical analysis
- Computer-based information technology
- Communication
- Cryptography
- Space travel
- Computer animation
- And everything!

# And More!

- Technology and transportation
- Technology and the environment
- Technology and waste management
- Technology and food production
- Technology and weather forecasting
- Technology and aircraft
- Technology for tech's sake
  - Alexa, Virtual Reality, Google Glass
- ...

What's on your mind for next week?