Our Mission: A bio-ingenuity company™ harnessing the power of nature to tackle the world's toughest environmental challenges for net positive impact.

Who We Are: At Allonnia, we believe that waste is a failure of imagination. That's why we are dedicated to extracting value where others see waste. We believe that elegant solutions to the world's biggest problems will be found in the world's smallest organisms. We're pioneering novel approaches and imaginative combinations in biotechnology and engineering to solve waste challenges in nature, using nature.

Fast Facts:

- Allonnia launched in 2020 as a spinoff of the biotechnology company Ginkgo Bioworks.
- Allonnia has raised $90M in funds to date; stemming from an initial Series A of $60M and an extension of $30M.
- Primary investors in Allonnia are Bison Ventures, IRONGREY, BHP Ventures, Vale Ventures, Wholestack LP, PPNG, Battelle, General Atlantic, and Viking Global Investors.
- Allonnia is approaching 50 employees, and we are actively expanding our team.
- Allonnia is headquartered in Boston, MA in the Seaport District.

Our Technology: Allonnia develops biotechnology and engineered products through adaptive platforms capable of tackling waste challenges across emerging contaminants, including PFAS and 1,4 dioxane; and sustainable mining, including selective gangue removal and extraction of rare earth elements. These platforms enable Allonnia to discover, design, and deploy natural solutions to urgent environmental problems through new remediation, upcycling, and valorization techniques.

Our 2040 Sustainability Goals:

- *Clean Water*: By 2040, Allonnia aims to have detoxified and released 600 billion gallons of water using our suite of decontamination technologies.
- *Cleaner Mining*: By 2040, Allonnia aims to eliminate 200 million tons of waste through sustainable mining.
- *Lower CO_2*: By 2040, Allonnia aims to have captured 150 million tons of CO_2.

Our Partners:

- Allonnia partners with industries on some of their hardest waste and environmental challenges.
- Allonnia works with engineering and consulting companies to remediate emerging contaminants across landfills, municipalities, and government sites.
- Allonnia partners with some of the largest mining companies in the world.

Our Solutions for Emerging Contaminants:
Allonnia has commercialized two products since 2020 focused on removing emerging contaminants:

- **SAFF®:** Allonnia targets the harmful chemical PFAS through Surface Active Foam Fractionation (SAFF®) technology.
    - SAFF is a sustainably engineered PFAS remediation technology that uses a combination of aeration and vacuum to remove over 99.99% of PFAS molecules from water.
    - SAFF works by using rising air bubbles to rapidly remove harmful PFAS contaminants from the environment, creating a separate concentration of PFAS chemicals that can then be transported and destroyed.
    - SAFF can be paired with any number of PFAS destruction technologies to permanently remove PFAS from the environment.
    - SAFF is manufactured by EPOC Enviro, and Allonnia is the exclusive distributor for the North American market.
    - Allonnia also developed a suite of 'boosters' to pair with and enhance SAFF. This technology will enhance the removal of certain short-chain molecules through increased aggregation and subsequent separation.

- **Allonnia 1,4 D-Stroy™:** 1,4 D-Stroy is the second commercial product we offer targeting forever chemicals.
    - 1,4 D-Stroy utilizes highly specialized, natural microbes to provide a sustainable, low-cost, and low-maintenance solution that breaks down 1,4-dioxane into only water and carbon dioxide.
    - 1,4 D-Stroy has proven in field tests to degrade over 99% of 1,4-dioxane in contaminated groundwater metabolizing it into only water and carbon dioxide.
    - This natural solution to groundwater contamination is approved by U.S. regulators and can be deployed today.

About Forever Chemicals:
- PFAS is most commonly used in fire-fighting foam and teflon non-stick pans, and when it bioaccumulates inside our bodies it causes a range of health issues. The U.S. EPA and the European Union have both recognized PFAS as a contaminant of drinking water and a hazard to human health.
- 1,4-dioxane has been widely used for industrial chemical processes since the 1950s, and the U.S. EPA lists it as one of the most prevalent emerging contaminants and a likely human carcinogen.

Our Solutions for Metals & Mining:
Allonnia is unlocking the potential of biotechnology for innovative metal recovery solutions by developing two solutions:

- **Allonnia D-Solve™:** boosting mining production, reducing energy and unlocking value in mining waste with a scalable and bolt-on process for nickel, copper, lithium and other critical minerals.
    - The D-Solve process consists of three steps:
        - Agitated leach: a stream of flotation concentrate sent to an agitated leach tank, dissolving gangue minerals.
        - Solid liquid separation: the purified concentrate is removed by filtration and returned to the main process.
        - Regeneration: the concentrate impurities are then removed and the solution is returned to the leaching step.
    - The heart of the solution are the Allonnia Biosolutions™, a powerful, naturally derived solution generated by microbes that selectively dissolve unwanted gangue while purifying valuable mineral concentrates.
    - In December 2024, Allonnia ran a successful demonstration of the solution with mining industry leaders.
    - The demonstration achieved 40% reduction in magnesium impurities from the nickel-sulfide concentrate, and a 14% increase in nickel grade.
    - Allonnia plans to invest in a mobile pilot unit in 2025 for onsite validation of the solution's performance at mining sites where similar challenges exist.

- **Allonnia RE-Cover™**: recovering metals from mine impacted water with an extraction process that selectively captures and purifies rare earths with proteins.

About Critical Minerals in Metals & Mining:
- Ore grade has declined between 30-50% over the past 50 years, requiring more energy, water and innovation to sustain metal production.
- 4-7% of global greenhouse gas emissions derive from mining and downstream processing, according to an article from McKinsey.
- According to the World Economic Forum, by 2050, there will be >2-5x demand growth for copper, nickel, lithium and rare earths in order to support the global energy transition.