

UTSRI SUMMIT

Final Committee Guide

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COMMITTEE SLATE

The following ten committees constitute the final slate for the UTSRI Summit. Seven committees will run at the high school level and three at the undergraduate level. Each entry below sets out the situation delegates enter, the mandate of the committee, the characters represented in the room, and the central tension the committee is built around.

#	Committee	Level
1	First Strike: Planetary Defense and the 2032 Question	High School
2	Manufactured Organs and the Right to a Kidney	High School
3	The Quiet Count: Pandemic Vigilance Before the Pandemic	High School
4	Engineered to Be Loved: Companion AI	High School
5	After Extinction: Law for Engineered Wildlife	High School
6	Human Health on Mars	High School
7	Version 4.2: Regulating Clinical AI That Updates Itself	High School
8	The Encryption Cliff: Governing the Post-Quantum Transition	Undergraduate
9	Mirror Life: The Moratorium We Kept	Undergraduate
10	The Mosquito Factory	Undergraduate

HIGH SCHOOL COMMITTEES

1. First Strike: Planetary Defense and the 2032 Question

For most of its history, planetary defense has been a theoretical discipline. That changed when sky surveys identified a near-Earth object with a non-trivial probability of striking the planet in 2032. Detection networks have matured, and a kinetic impactor mission has already demonstrated that an asteroid's orbit can be altered. What has not matured is the decision architecture: no treaty establishes who authorizes a deflection attempt, who pays for it, or who accepts responsibility if the attempt fails or succeeds only partially.

Delegates convene as an emergency international planetary defense coordination body. They must evaluate the observational evidence, decide whether to authorize a deflection mission and on what timeline, determine how the mission is funded and commanded, and establish what is communicated to the public while the probability estimate is still moving.

Characters: Astronomers and orbital dynamicists, national and international space agencies, aerospace contractors and launch providers, disaster management authorities, national governments, insurers and risk modellers, science communicators, and international law scholars.

Core conflict: A deflection must be authorized years before anyone can be certain it is necessary, and an imperfect deflection may not remove the danger so much as move it from one population to another.

2. Manufactured Organs and the Right to a Kidney

Bioengineered tissues and gene-edited xenotransplants are moving out of the laboratory and into limited clinical use. For the first time, the supply of transplantable organs is becoming a manufacturing question rather than a purely biological one. Transplant waiting lists have been governed for decades by allocation systems built on the assumption of absolute scarcity: organs are donated, not produced, and cannot be bought.

Delegates convene as a national transplantation and health policy commission charged with writing the rules before the first manufactured organs reach patients at scale. They must decide whether engineered organs enter the existing allocation system or a

parallel market, how they are priced and reimbursed, who receives the earliest and least proven units, and what obligations manufacturers carry for long-term patient outcomes.

Characters: Transplant surgeons and nephrologists, tissue engineers and biotechnology firms, organ procurement organizations, health ministries and regulators, public and private insurers, patient advocacy groups, bioethicists, religious and community leaders, and living donor representatives.

Core conflict: If organs can be manufactured, scarcity becomes a pricing decision rather than a fact of nature, and an allocation ethic built entirely around scarcity may no longer be the right one.

3. The Quiet Count: Pandemic Vigilance Before the Pandemic

The most consequential period in any pandemic is the one before it is recognized as a pandemic. Wastewater monitoring, genomic sequencing, and syndromic reporting can detect an emerging pathogen weeks before hospitals do, but these systems must be funded, staffed, and defended during long stretches in which they find nothing. Surveillance budgets historically collapse in exactly those periods, and countries that report unusual signals early frequently absorb trade and travel penalties for their honesty.

Delegates convene as a global health security review board during a period of unremarkable disease activity. They must design and finance an early-warning architecture, agree on what data is shared and how quickly, define the thresholds that trigger escalation, and resolve how the costs of transparency are distributed among reporting states.

Characters: The World Health Organization, epidemiologists and modellers, national public health agencies, genomic and wastewater surveillance laboratories, finance ministries, low- and middle-income country delegations, veterinary and agricultural authorities, journalists, and trade and tourism representatives.

Core conflict: A surveillance system must be paid for and protected precisely when there is no evidence it is needed, and every early warning it issues risks being remembered as a false alarm.

4. Engineered to Be Loved: Companion AI

Conversational systems are now designed to be cared about. They remember, adapt, express warmth, and are deployed as companions for people who are isolated, grieving,

or simply alone. A growing number of users describe an AI system as one of their most significant daily relationships. These products are also commercial, and the same design choices that make a companion feel attentive are the choices that maximize time spent with it.

Delegates convene as a regulatory and standards body to determine how companion AI should be designed, disclosed, and governed. They must address safeguards for vulnerable users, limits on engagement-maximizing design, obligations of disclosure about what the system is, data protections for intimate conversational records, and what a company owes its users when a companion product is discontinued.

Characters: AI developers and product designers, clinical psychologists and psychiatrists, consumer protection regulators, digital rights and privacy organizations, elder care and mental health service providers, ethicists, user advocacy groups, and platform companies.

Core conflict: The systems that most genuinely relieve loneliness are the same systems that profit from deepening it, and no regulator has yet drawn a line between companionship as a service and dependence as a business model.

5. After Extinction: Law for Engineered Wildlife

Genome engineering has made it possible to produce functional proxies of extinct species and to release engineered organisms into landscapes their ancestors left long ago. Conservation law was not written for this. Existing frameworks assume that species are discovered, protected, or lost, not designed and manufactured, and they offer no settled answer to what an engineered animal legally is: an endangered species, a genetically modified organism, private intellectual property, or a potential invasive.

Delegates convene as an international working group on biological diversity to build a legal framework for engineered and restored organisms. They must define legal status and ownership, determine who authorizes a release and who monitors it afterward, address consent and stewardship on the lands where releases would occur, and decide whether de-extinction work strengthens or diverts conservation funding.

Characters: Conservation biologists and ecologists, genome engineers, national wildlife and environmental agencies, Indigenous nations and land stewards, ranchers and landowners, international environmental lawyers, private de-extinction companies, zoos and biobanks, and philanthropic funders.

Core conflict: Conservation law exists to protect what nature produced, while an engineered animal is at once a conservation achievement, a commercial asset, and an ecological unknown.

6. Human Health on Mars

Humanity is preparing for its first long-term missions to Mars. Unlike previous space missions, a journey to Mars could last years, meaning astronauts cannot simply return to Earth when something goes wrong. Radiation exposure, reduced gravity, isolation, psychological stress, and limited medical resources create an entirely new set of challenges for human health. As plans for permanent settlements begin to take shape, the question becomes not simply whether humans can reach Mars, but whether they can survive there.

Delegates are brought together to design a comprehensive healthcare system for the first Martian settlement. They must determine how to prevent and treat illness, allocate limited medical resources, respond to emergencies, and protect both the physical and psychological health of the crew.

Characters: NASA and international space agencies, aerospace engineers, physicians, physiologists, psychologists, biomedical researchers, private space companies, and representatives of future Martian settlements.

Core conflict: Mars offers humanity an unprecedented opportunity for exploration, but every medical decision must be made with limited resources, delayed communication with Earth, and no possibility of immediate evacuation.

7. Version 4.2: Regulating Clinical AI That Updates Itself

Medical devices are approved the way bridges are inspected: a regulator examines a fixed object, certifies it, and expects it to remain the thing that was certified. Clinical AI breaks that assumption. A risk-prediction model that flags deteriorating patients is not a fixed object at all. It is retrained on new data, tuned by the vendor between releases, and deployed into hospitals whose patient populations look nothing like the one it was validated on. Approval captures a single version. The software keeps moving.

The committee opens on a specific failure. A widely adopted early-warning model, approved years earlier and installed in hundreds of hospitals, has been quietly retrained several times. Aggregate accuracy has held steady, which is why nothing triggered review, but performance has drifted downward for particular groups of patients and in

particular hospital settings. Clinicians had begun overriding the alerts before anyone examined why. No regulation required the vendor to report the retraining, and no mechanism existed to catch the drift.

Delegates convene as an international medical device regulatory commission to write the approval framework for clinical AI that learns after deployment. They must decide whether models should be frozen at approval or permitted to update within pre-authorised limits, what post-market monitoring vendors owe and who pays for it, when a retrained model becomes a new device requiring fresh review, what clinicians and patients must be told about a system that has changed, and who is accountable when a model that was approved is not the model that made the decision.

Characters: Physicians and nurses working with the tools, medical device regulators, AI developers and vendors, clinical validation researchers and biostatisticians, hospital administrators and procurement officers, delegations from under-resourced health systems, patient advocates, medical liability lawyers, and data governance experts.

Core conflict: A model that is frozen at approval becomes obsolete as medicine advances, and a model that keeps learning is never the model anyone approved. Regulators must certify something that will not hold still long enough to be certified.

UNDERGRADUATE COMMITTEES

8. The Encryption Cliff: Governing the Post-Quantum Transition

Nearly all secure global communication rests on mathematical problems that a sufficiently capable quantum computer would render trivial. No such machine is known to exist, but encrypted traffic is already being captured and stored by actors who expect one eventually to arrive. Every year of delay in migrating to post-quantum cryptography extends the volume of data that will be retroactively readable. The migration itself is enormous, touching banking, telecommunications, medical records, power grids, and government archives, and the capacity to complete it is distributed very unevenly across the world.

Delegates convene as an international standards and security coordination body to govern the transition. They must agree on migration timelines and compliance requirements, address the capacity gap between wealthy and low-resource states, determine how legacy and embedded systems are handled, and settle disclosure norms should a cryptographically relevant capability be achieved.

Characters: Cryptographers and standards bodies, national security and signals intelligence agencies, central banks and payment networks, telecommunications and cloud providers, critical infrastructure operators, low- and middle-income country delegations, hardware manufacturers, and privacy and civil liberties advocates.

Core conflict: The migration must be completed before a capability that may not yet exist arrives, and the states best positioned to build that capability first have the least incentive to announce that they have.

9. Mirror Life: The Moratorium We Kept

The molecules of life are chiral. Proteins and nucleic acids in every known organism share a single handedness, and an organism built entirely from the opposite enantiomers would be unrecognizable to the immune systems, antibiotics, predators, and diagnostic assays that constrain ordinary microbes. In 2028, warned by their own field, governments adopted a moratorium on mirror-organism synthesis. It held for thirteen years. The prohibition was never total: narrow exemptions preserved mirror-molecule therapeutics, and a small number of national laboratories continued defensive characterisation work under classification.

In March 2041, containment failed at one of them. A viable mirror bacterium is now outside the facility. It does not bind to existing antibiotics, it does not trigger recognised immune signatures, and routine clinical and environmental assays return negative because they were never designed to see it. Spread has been confirmed in three countries. What no one has is a countermeasure, because the moratorium worked exactly as intended and froze the science that would have produced one. Every therapeutic, assay, and ecological model the response now requires would have to be built from a research base that was deliberately left empty.

Delegates convene as an emergency international response authority with days, not years, to act. They must establish detection and containment while the tools to detect anything are still being invented, decide whether to suspend or dismantle the moratorium and under what terms, direct and fund a crash countermeasure programme, allocate scarce containment capacity across affected states, determine accountability for the breach, and manage public communication as movement restrictions tighten. The situation will continue to develop while the committee sits, and directives will be tested against consequences in real time.

Characters: Emergency containment and biosafety specialists, mirror-chemistry researchers, biosecurity and verification analysts, national governments and defence establishments, the World Health Organization and national public health agencies, immunologists and ecologists, pharmaceutical and industrial biotechnology firms, treaty lawyers, affected-state delegations, and journalists and civil society organizations.

Core conflict: The prohibition that was meant to prevent this is the reason no one has a countermeasure, and the only path to a response runs through the research the world agreed never to do. Every hour delegates spend deciding whether to reopen that door is an hour the organism spends spreading.

10. The Mosquito Factory

A city in a tropical region is experiencing its worst dengue outbreak in decades. Hospitals are overwhelmed, mosquito populations are expanding, and conventional control measures are becoming increasingly ineffective. Scientists propose a solution: establish a large-scale facility that breeds genetically modified mosquitoes designed to reduce the transmission of dengue.

The technology could dramatically reduce disease transmission, but releasing engineered organisms into the environment carries risks that cannot be completely

predicted. Environmental groups warn about unintended ecological consequences, local communities question whether they have given meaningful consent, and governments face pressure to act before the outbreak worsens.

Delegates convene as an international task force to determine whether the mosquito program should proceed and, if so, under what conditions. They must evaluate scientific evidence, establish regulatory safeguards, address public concerns, and decide how much ecological risk is acceptable in exchange for potentially saving thousands of lives.

Characters: Geneticists, epidemiologists, ecologists, public health officials, government representatives, biotechnology companies, environmental organizations, community representatives, and bioethicists.

Core conflict: A technology capable of controlling a devastating disease requires deliberately altering and releasing a living organism into the environment. Delegates must decide whether the potential public health benefits justify risks that may not be fully understood.