

# THE UNIVERSITY OF LUNA PROJECT - [U-LunaProject.org](http://U-LunaProject.org) - 1

## INTRODUCTION

There will be no Earth-Moon Economy, no Lunar Frontier, and no University of Luna on the Moon if we do not learn more about the Moon now, and predevelop now the key technologies to progress from an outpost to enterprise-based frontier. To address this, we have created The University of Luna Project.



√ Our **Vision**: The growth and development of an Earth/Moon economy involving genuine international civilian lunar settlements.

√ Our **Mission**: foster the research and development of technologies needed to create an Earth Moon Economy that uses lunar and space based resources to address the critical energy and environmental problems of the Earth.

√ Our **Strategy**: the “University of Luna Project”

- A catalyst for student involvement in pursuit of innovative ways to meet technology challenges and encouraging student entrepreneurship
- Encourage private and commercial approaches alongside the work of national space agencies.
- Leverage the resources of existing educational institutions, government agencies, and industry
- Facilitate web-based global access to information on the Moon and to means of participation

### AREAS WHICH NEED R&D NOW

#### SELENOLOGY DEPT

- “Economic Geography” of Lunar Resources
- Identification of logical Transportation Corridors
- Ground Truth landers & rovers
- Data Mining Projects (missions already flown)
- Feature and Place Name Registry
- Areas of Geological, Scenic, Historical value

#### ENERGY DEPT

- Helium 3 extraction, handling, shipping
- Lunar Solar Power Systems
- Power Storage System
- Dayspan/Nightspace Operations
- Recycling of embodied energy
- Energy efficiency research
- Industrial parks organized into thermal cascades
- Lunar sourceable fuels for generators, vehicles
- Mass driver systems for bulk exports
- Mass catcher systems for bulk imports

#### ASTRONOMY DEPT

- ◇ Farside radio astronomy
- ◇ Optical astronomy installations
- ◇ Amateur Telescopes for Lunan pioneers

#### LUNAR TECHNOLOGY DEPT

- Mining & Processing Technologies
- Lunar-deficient elements - alternative sources
- Lunar Satellite systems
- Water-conserving Manufacturing
- Dust control systems

- Lunar-Appropriate Industrial Design
- Disassembly-friendly assembly to enable proper recycling

#### MATERIALS RESEARCH DEPT

- Concrete, ceramics, cast basalt
- Glass, glass fiber, glass composites
- Ceramics options
- Metal alloys

#### ARCHITECTURE

- Modular architecture system
- Surface structure architecture

- Shielding systems and Flare sheds
- Warehouse systems
- Construction systems that minimize EVA
- Low gravity Stair / ladder design

#### AGRICULTURE & BIOSPHERE

##### Agriculture & Food Processing

- Development of new hybrids
- Biological Diversification project
- Wild Areas project
- Food processing
- Biomass waste recycling
- Fiber production
- Pharmaceutical production
- Climate options

##### Lunar Biospherics Research

- Modular biospherics to enable in step growth
- Graywater and blackwater systems
- Environmental protection protocols

#### ARTS DEPARTMENT

- Made-on-Luna art media
- Made-on-Luna musical instruments
- Lunar performing arts forms

#### TRANSPORTATION DEPT

- Vehicles for pressurized roadways
- Design surface highways and various vehicles
- Design self-help roadway service stations, etc.
- Lunar railway & cableway systems
- Human-powered cycles for 1/6th G
- Suborbital transports and runways

#### SPORTS & RECREATION DEPT

- Sports designed for lunar 1/6 th G
- Dance forms for 1/6 th G
- Exposed surface recreation and sporting activities

#### FRONTIER MEDICINE / HEALTH

- Compact full-function hospitals
- Frontier first aid kits and systems
- Research in LEO facilities with 1/6th for early cues to physiological & other health problems
- Nutritional diets for 1/6th gravity

#### HUMAN RESOURCES DEPT

- Production-support roles for seniors, youth, etc.
- Tasks to outsource to teleoperators on Earth to free others for export/domestic production needs.
- Tasks for the antisocial element

#### POLITICAL SCIENCE DEPT

- Determine criteria for phasing in home rule
- Earth Political, Economic, Cultural, Relations

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## U. LUNA PROJECT RESEARCH TOOLS FOCUSED ON STUDENTS & ENTERPRISE

- *Lunarpedia.org* - An open-source online Moon-focused Encyclopedia launched in January 2007
- *Data Mining Projects*, gaining fresh insights from data of lunar missions already flown
- “*Spin-up*” *Enterprises* - doing the R&D for technologies needed on the Moon - *now* - for the sake of profitable terrestrial applications, thus putting these technologies “on the shelf,” with the bill for the R&D paid for by consumers
- *Listing Masters & Doctoral Theses Topics* that address specific research holes - *engage students*
- *Targeted College Engineering & Design Competitions & Contests* - *engage students*
- *Research-focused Curricula* - *engage students*
- *Envelope Pushing Workshops*
- *Involving Universities and Corporations*
- *Lunar Analog Research Stations*

## WHERE WILL THE RESEARCH BE DONE?

At universities and colleges, in corporate labs

## WE WISH TO COLLABORATE WITH EXISTING INSTITUTIONS, NOT TO COMPETE WITH THEM.

## WHOSE PROJECT IS THIS?

- This is an open-source project to which anyone who believes the Moon has a place in our future is welcome to find a way to contribute
- ULP will complement the work of NASA, ESA, JAXA, ISRO and other national space agencies

## WE CANNOT PLAN THE RESULTS

- What gets done depends on the interests, talents, and energies of those who choose to participate
- *This could be your project!*

## A CYBERSPACE RESEARCH CATALYST & RESEARCH ENGINE

## THE PROJECT WILL INCLUDE MANY PARTS

- Diverse projects
- In a large number of categories

## WHAT THAT MEANS

- We need a team of many individuals to oversee work proposed and in progress in many areas
- A number of team-maintained website directories

## SOME TEAMS WILL BE MORE PRODUCTIVE

- That can't be helped
- But everything we accomplish will help advance the Dawn of a vigorous Lunar Frontier
- The more we get done, the stronger the frontier

## OTHER THAN INDIA, NO NATION HAS AS YET ADOPTED THE CREATION OF AN EARTH-MOON ECONOMY AS A GOAL

- Our work can help change that situation.
- This is a dream that is up to us to realize.
- We owe it to ourselves and our children
- It is a plan that will guide our successors

## ULP IS A MOON SOCIETY INITIATIVE

- However, it will function with full autonomy, with its own Board of Directors and Officers
- It will have its own budget and financing
- All space advocacy organizations are invited to cosponsor through collaboration on various levels  
✓ Check our website for the current sponsor list
- Institutional sponsors are welcome on areas of research and student projects
- Colleges, universities, individual university departments, and other institutions are invited to support this effort as a way to enhance and/or complement their own research programs
- Industrial corporations and other enterprises of any kind are invited to support this effort
- To discuss ways in which you can participate, just send an email message to [kokhmmm@aol.com](mailto:kokhmmm@aol.com) and/or to [daviddunlop@gmail.com](mailto:daviddunlop@gmail.com)

## THE U-LUNA PROJECT IN A NUTSHELL

- A “grass roots” effort of those who believe the Moon has a significant role to play in our future
- United in activities aimed at providing Lunar pioneers with the tools they will need to succeed
- *So that they can get off to a great start*

## PRIORITIES

- Any and all *projects that engage youth*. The current generation will soon retire. *If we do not replace ourselves, it's all over*
- There is an urgent need to do what we can to get the *instruments* flown that will help complete the “*economic geography*” of the *Moon's resources and physical assets of economic significance*

## THE FRIENDS OF THE U-LUNA PROJECT

- Any project as vast and comprehensive as this can be advanced by a “Friends of” Organization
- The focus of such a group is to *complement the projects and programs* of the ULP – *not to replace or duplicate services*
- The Friends can arrange *introduction parties, educational events & organize fundraising efforts*
- The Friends can set up *speaking engagements, receptions, workshops, seminars and conferences*
- The Friends can do public outreach to *increase recognition, understanding, and support for the ULP's vision, goals, and projects*
- The Friends can *arrange award ceremonies* in recognition of outstanding work in research
- *The Moon Society and other space activist societies* can help set up this “Friends of” group

## GETTING INVOLVED - CONTACT INFO

- David A. Dunlop - [daviddunlop@gmail.com](mailto:daviddunlop@gmail.com)  
ULP Executive Director - 708-848-6605
- Peter Kokh - [kokhmmm@aol.com](mailto:kokhmmm@aol.com)  
Chair ULP Board of Advisors - 414-342-0705