What is Humanosphere?

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Here at the Research Institute for Sustainable Humanosphere (RISH), we unify the human living environment, the forest sphere, the atmosphere and outer space as the Humanosphere. Our goal is to understand the great range of phenomena that occur here, and at the same time to contribute to society through advancing basic scientific technologies vital to the construction of a sustainable humanosphere.
We are tackling the below four missions, which we consider as some of the most important topics to explore.

Mission 1 Assessment and Remediation of the Humanosphere

This mission is based on the reorganization and incorporation of different research field such as observations of the atmosphere, biochemical research on genetics of woody plants, and effective utilization of forest resources. The aim of the mission is to create foundations that permit sustainable ways of using forest resources while maintaining well being environment. This will be made possible by understanding the current conditions and the fluctuations of Humanosphere as accurately as possible.

Mission 2 Development of Science and Technology through Biomass and Solar Satellite Research toward a Solar Energy Society

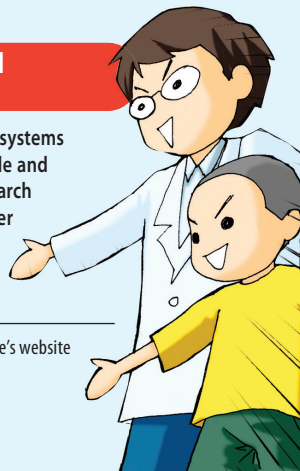
The aim of this mission is to create sustainable societies relying more on renewable energy such as solar and biomass energy. The research on solar power station/satellite (SPS), microwave power transmission, and the conversion of wood biomass to fuels, chemicals and advanced carbon materials are conducted.

Mission 3 Study of the Space Environment and its Utilization

The ultimate goal of this mission is to build research foundations for expanding the Humanosphere into space for the future generations. The scope of the research on space plasmas and cosmic rays are now expanded to include this objective. The investigation of the space environment surrounding the Earth, development of new technologies for exploring of the space, quantitative evaluation of artificially perturbed environments around spacecrafts as well as the evaluation of natural space plasmas are conducted. The possible utilization of new wood materials in space environment is also investigated.

Mission 4 Development of Technology and Materials for Cyclical Utilization of Bio-based Resources

This mission aims to realize sustainable societies by building resource cycling systems of forest resources. Among bio-based resources, forest resources are renewable and have a possible capacity of a large scale production. Through conducting research on forest resources, the development of fundamental technologies with lower environmental impacts on every phase of the biomaterial life cycle involving production, processing, utilization, disposal and reuse is achieved.



For more information, please visit Kyoto University Research Institute for Sustainable Humanosphere's website

http://www.rish.kyoto-u.ac.jp