

Educational space probe model system of lander (Hunveyor), rover (Husar) and test-terrain for planetary science education and analog studies in universities and colleges of Hungary.

(1) Sz. Bérczi, (2) S. Hegyi, (3) Gy. Hudoba, (1) H. Hargitai, (2) A. Kókány, (2) B. Drommer, (2) T. Bíró, (4) A. Gucsik, (5) A. Pintér, (6) Zs. Kovács.

(1) Eötvös University, Institute of Physics, Cosmic Materials Space Research Group, Budapest, Hungary, (bercziszani@ludens.elte.hu), (2) Pécs University, Department of Informatics and G. Technology, Pécs, Hungary, (3) Budapest Polytechnic, Kandó Kálmán Faculty of Electrical Engineering, Székesfehérvár, Hungary, (4) University of West Hungary, Sopron, Hungary, (5) Pannonhalma St. Benedict Gymnasium, Pannonhalma, Hungary, (6) Berzsenyi College, Szombathely, Hungary.

In 1997 we began a complex modelling program in planetary geology unifying field work robotics, electronics and complex environmental analysis by constructing an experimental space probe model system. It consists of an experimental lander HUNVEYOR (Hungarian UNiversity surVEYOR), a rover named HUSAR (Hungarian University Surface Analyser Rover) and a test terrain. For Hunveyor the idea and example was the historical Surveyor program of NASA in the 1960-ies, for the Husar the idea and example was the Pathfinder's rover Sojourner rover.

The main goals of this program are: 1) to teach the complex work of planetary science according to the main operations of the procedure of the large scientific and technology system, 2) to build the lander structure and basic electronics from cheap everyday PC compatible elements, 3) to construct basic experiments and their instruments, 4) to use the system as a space activity simulator, 5) to form the electronics of this simulator system which contains lander (with on board computer) for works on a test planetary surface, and a "terrestrial control" computer, "talking" with each other, 6) to harmonize the assemblage of the electronic system and instruments in various levels of autonomy from the power and communication circuits, 7) to use the complex system in education for in situ understanding of the complex planetary environmental problems, 8) to build various planetary environments on the test terrain in order to apply the instrument assemblages in various testing conditions, 9) to use the model system with special internet connections capable of communicating in the web in field trip conditions for users, and 10) to use the model system in real planetary analog field trip simulations, first in Hungary and later in some planetary analog site in the world. We report some of these visits in Hungary and Utah, USA.

REFERENCES: [1] Bérczi Sz., Cech V., Hegyi S., Borbola T., Diósy T., Köllő Z.,

Tóth Sz. (1998): LPSC XXIX, #1267; [2] Drommer B., Blénessy G., Hanczár G., Gránicz K., Diósy T., Tóth Sz., Bodó E. (1999): LPSC XXX, #1606; [3] Bérczi Sz., Drommer B., Cech V., Hegyi S., Herbert J., Tóth Sz., Diósy T., Roskó F., Borbola T. (1999): LPSC XXX. #1332 [4] Bérczi Sz., Kabai S., Hegyi S., Cech V., Drommer B., Földi T., Fröhlich A., Gévy G. (1999): LPSC XXX, #1037; [5] S. Hegyi, B. Kovács, M. Keresztesi, I. Béres, Gimesi, Imrek, Lengyel, J. Herbert (2000): LPSC XXXI, #1103, Houston, [6] T. Diósy, F. Roskó, K. Gránicz, B. Drommer, S. Hegyi, J. Herbert, M. Keresztesi, B. Kovács, A. Fabriczy, Sz. Bérczi (2000): LPSC XXXI, #1153, Houston, [7] F. Roskó, T. Diósy, Sz. Bérczi, A. Fabriczy, V. Cech, S. Hegyi (2000): LPSC XXXI, #1572, Houston, [8] Balogh, Zs., Bordás, F., Bérczi, Sz., Diósy, T., Hegyi, S., Imrek, Gy., Kabai, S., Keresztesi, M. (2002): LPSC XXXIII, Abstract #1085, LPI, Houston (CD-ROM), [9] Hegyi, S., Horváth, Cs., Németh, I., Keresztesi, M., Hegyi, Á., Kovács, Zs., Diósy, T., Kabai, S., Bérczi, Sz. (2002): LPSC XXXIII, Abstract #1124, LPI, Houston (CD-ROM), [10] Sz. Bérczi, T. Diósy, Sz. Tóth, S. Hegyi, Gy. Imrek, Zs. Kovács, V. Cech, E. Müller-Bodó, F. Roskó, L. Szentpétery, Gy. Hudoba (2002): LPSC XXXIII, Abstract #1496, LPI, Houston (CD-ROM).