ONLINE ASTROBIOLOGY COURSE IN HUNGARY. T. Simon[1] and A. Kereszturi[1,2,3], [1]Origo website, T-Online Hungary, [2]Collegium Budapest, Institute for Advanced Study, [3]Hungarian Astronomical Association. E-mail: simon.tamas@origo.hu

Introduction: Teaching of astrobiology appeared at higher education level in the last years [1,2,3,4,5]. In Hungary, the first university course on astrobiology was held by Almar and Illes at Eotvos University in 1997, with the presentation of SETI research for students [6,7]. A second astrobiology course was realized at University of Szeged with emphasis on exoplanets [8]. A third and planetary science specific course on astrobiology was organized in cooperation between Eotvos Lorand University of Sciences and Polaris Observatory of the Hungarian Astronomical Association in 2003, to develope and test new and simple methods for the presentation and visualization of knowledge in a synthetic form (astrobiology matrix [9], Drake matrix [10], methods of planetary environment comparison [11] etc.)

In 2008 an online course started at the website of origo (T-Online) in Hungary, to promote the latest results in astrobiology for the public, and put them into a comprehensive framework. The course was dedicated to university level, but any person could take part free of charge. at http://www.origo.hu/tudomany/vilagur/ .

Topics of the course: The lectures were organized according to the evolutionary steps of material in the Universe: from stellar metal production, through interstellar chemistry, planet formation and planetary evolution, toward the origin of life in Earth, including the interaction of the biosphere of Earth and the planet itself. The main topics are the follows:

1. Formation of the elements and molecules
2. Planet formation and exoplanets
3. Origin and early evolution of life on Earth
4. Extremophyles, extreme environments
5. Astrobiology potential of Titan
6. Astrobiology potential of Europa
7. Astrobiology potential of Mars
8. Panspora, role of impacts
9. Habitble zones and galactic environment
10. Methods and equipments in astribiology
11. Life and intelligence

Structure of lesson: The text fuses the latest results into a simple hierarchical structure of background knowledge. Beside the relevant images, comprehensive figures were produced to visualize the scale of processes, comparison and understand connections between bifferent effects (e.g. Fig. 1.). At the end of every lesson the users could check their knowledge with test questions. The articles visited by 10000-15000 users, and forums gave the possibility to address and discuss questions.

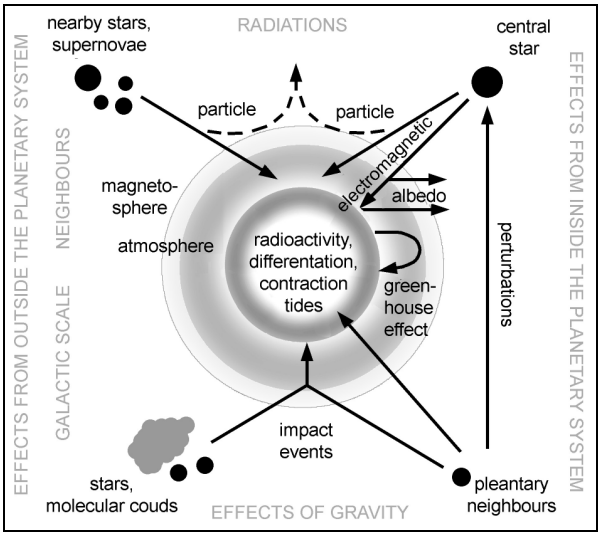

Fig. 1. Example figure on the visualization of different effects on planetary evolution

In the next years we are to integrate astrobiology into Earth science education at university level using online tools, and compile online Mars related course.

Fig. 2. Example screenshot of the website

To develop the online planetary science and astrobiology related materials we are searching for other online courses and cooperation in the field of planetary science and astrobiology education.

References: [1] Prather & Slater 2002. Astrobiology 2(2): 215-223. [2] Horneck & Rettberg 2007. Weinheim: Wiley-VCH, 413. [3] Kolb 2005. SPIE, 5906, 150-154. [4] Manfred 2006. DPS FallMeeting #TSAAPT [5] Pierson 2006. Acta Astronautica, 58/9. 478. [6] Almar et al. 1991 Proc. of the 3rd Intern. Sym. on Bioastronomy 390-393. [7] Almar & Illes 2001. Intern. Workshop, Stromboli, Italy, 356. [8] Szabó et al. Astron. and Astroph. 2006. 450, 395-398. [9] Mizser, Kereszturi 2003 34th LPSC #1114. [10] Astrobiology Magazine online 2003.07.02. [11] Kereszturi 35th LPSC 2004. #1070.