SAMPLING THE ATMOSPHERE FROM BELOW WITH ROCKETS AND ABOVE WITH SMALL SPACECRAFT:

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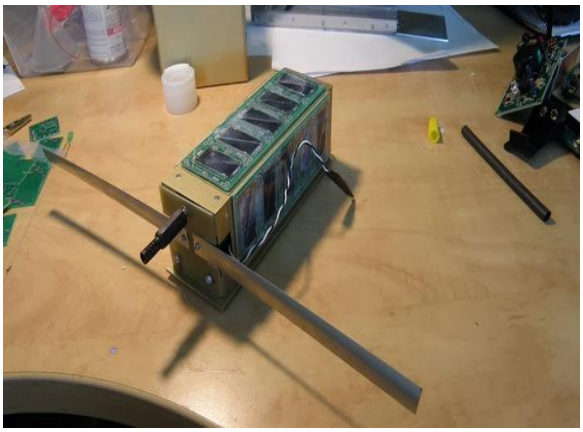
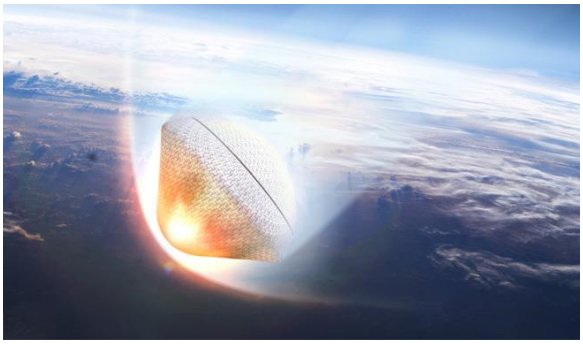
Introduction: Using technology developed for small spacecraft to develop payloads for rockets can establish program of air sampling up to 400,000 ft. These payloads can use the processor, GPS and radio technology to sequence air sampling that will provide important samples for the astrobiology community.

In addition to the rocket sampling program, the use of small spacecraft like the PocketQube[1], CubeSat, and reentry vehicles[3] that can be deployed from the International Space Station[4] that will allow atmospheric sampling for in-situ measurements as the spacecraft descents over a several months deorbiting period.





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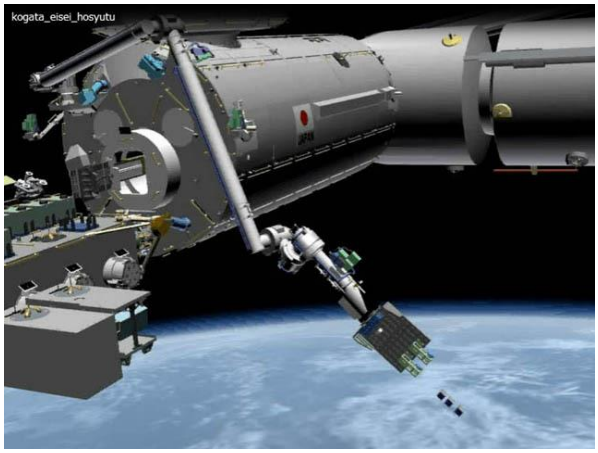
In addition to the rocket sampling program, the use of small spacecraft like the CubeSat and PocketQube can be deployed from the International Space Station that will allow atmospheric sampling for in-situ measurements as the spacecraft descents over a several months deorbiting period.



References: [1]Twiggs, R. J., Jernigan, J. G., etal. California State Polytechnic University CubeSat Workshop, April 23, 2014. [3] http://www.tvaero.com/.
[4] http://www.parabolicarc.com/tag/spaceloft/, 2012. [4] http://nanoracks.com/tag/cubesat/