

## Proposal for Forming an IAA Study Group S 2.1

**Title of Study:**

**Mathematical Modeling & Physiological Simulation: The Digital Astronaut/Cosmonaut**

**Proposer:**

**Ronald J. White, Ph.D.**

**Primary IAA Commission Preference: Commission II: Life Sciences**

*(From Commission 1 to Commission 6)*

**Secondary IAA Commission Interests:**

*(From Commission 1 to Commission 6)*

**Members of Study Team**

**Chair: Ronald J. White, Ph.D.**

**Co-Chair: Rupert Gerzer, Prof. Dr. med.**

**Secretary: Jancy McPhee, Ph.D.**

**Other Members:**

Brian Athey, Ph.D.

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**Short Description of Scope of Study**

**Overall Goal:** To develop a report outlining a community-based research and technology plan for an international research program aimed at the physiological basis of a digital human/astronaut (cosmonaut). This report should be written within two years (October 2005).

**Intermediate Goals:** Hold two major workshops (already funded), one in Europe and one in the U.S. over the next nine months. Develop an interim report within one year (October 2004).

**Methodology:** Major workshop in Berlin in Winter 2004 and in Washington in Spring 2004. Discussions by telecom. Communication and report writing via e-mail links.

**Time Line:** Two years to final report: 2003-2005

**Final Product (Report, Publication, etc.):** A publishable report on the steps necessary to develop an international program in the mathematical modeling and simulation of the human body, with particular emphasis in applications to astronaut/cosmonaut health.

**Target Community:** Governmental bodies funding space and health research around the globe, space life sciences community, biomedical research community in general.

**Support Needed:** IAA co-sponsorship of workshops (no funding), IAA endorsement of final report and circulation of report to appropriate agencies.

**Potential Sponsors:** IAA, NASA, DLR, ESA, ... NSF, NIH, ...

*To be returned to IAA Secretariat Paris fax: 33 1 47 23 82 16 email: sgeneral@iaanet.org*

**Date:** 29 September 2003

**Signature:** \_\_\_\_\_

**Ronald J. White**

*For IAA Use Only:*

**Approved, October 30, 2003  
Dr. K. Kasturirangan, SAC VP**