

**Janna (Eugenia) Kaplan, M.S.**



**Ashton Graybiel Spatial Orientation Laboratory**

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**SIRIUS Astronaut Training**

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Date of Birth: July 23, 1953  
Place of Birth: Gorky, Russia  
Citizenship: USA  
Married, two children

- Emigrated from the Former Soviet Union in June 1981 as a Jewish refugee. Immigrated into the United States in June 1982. Naturalized US citizen in 1989.

- EDUCATION:

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|--------------------|--|
| <b>1982 – 1983</b> | Department of Zoology, University of Texas at Austin. Supervisor: Professor George Pollak. Ph.D. Program, not completed.   |
| <b>1976 – 1980</b> | Ph.D. program, Leningrad State University, Russia. ABD: denied opportunity to defend Ph.D. thesis in Neurophysiology due to emigration visa application.   |
| <b>1970 – 1975</b> | Leningrad State University, Russia. Graduated Summa cum Laude with Highest Honors from a 5-year joint program (B.S. and M.S.) at the Department of Biology, Neurophysiology Section. Awarded Lenin Scholarship, the most prestigious University Scholarship in the former USSR, for outstanding academic achievements. |
| <b>1960 - 1970</b> | Dual curriculum Russian/English High School in Stalingrad, a.k.a. Volgograd, Russia. Awarded Gold Medal, Soviet Union's highest honor in secondary/high school education.  |

• PROFESSIONAL EXPERIENCE:

- 1993 – present** Ashton Graybiel Spatial Orientation Laboratory at Brandeis University  
and  
**2010 – present** SIRIUS Astronaut Training: Program Lead and Senior Scientist

Positions at Brandeis University:

**2009 - present** Lecturer in Psychology and Senior Research Associate  
Ashton Graybiel Spatial Orientation Laboratory  
Professor James R. Lackner, Director  
Professor Paul DiZio, Associate Director

Responsibilities include:

- Plan, conduct, and analyze experiments on human spatial orientation and motor control. Direct research staff. Develop human subjects' protocols for IRB approval.
- Implement planned experiments; meet with senior scientific staff to assist in the planning and design of experiments; distribute work assignments to research staff and monitor progress; advise senior scientific staff on progress of ongoing experiments; integrate computer, electronic, and mechanical equipment for conducting experiments on human spatial orientation; test human subjects and analyze experimental results.
- Maintain database of current, past, and future (planned) experimental protocols. Monitor IRB conformance in all ongoing research projects. Manage archive and database of all current and past experimental data.
- Coordinate preparation and readiness for reduced gravity experiments in parabolic flight, at NASA's Johnson Space Center, Houston TX.
- Train and supervise new staff and undergraduate & graduate students on experimental procedures, techniques, and human subjects' safety and regulations compliance.
- Supervise high school and undergraduate interns.

**2011 – present** Developed (with James Lackner and Paul DiZio) a training program for commercial and research astronauts: SIRIUS Astronaut Training. In partnership with the Graybiel Lab, it trains non-pilot, payload and research astronauts for private spaceflight in sensorimotor human factors. Program Lead and Senior Scientist.

Prior positions at the Graybiel Lab:

**1993 - 2009** Senior Research Associate  
**1993 - 1996** Research Associate  
**1983 - 1993** Research Assistant

Positions prior to Brandeis University:

**1982 - 1983** Research Assistant  
Zoology Department, University of Texas, Austin TX 78712  
Supervisor: Professor George Pollak.

**1975 - 1981** Research Scientist  
Spatial Orientation Laboratory, Leningrad State University, Russia  
Director: Professor A. Konstantinov.

**1973 – 1974** Space Center of the Soviet Union, "Zvionznyi Gorodok" (Star City) and Chkalovskoye Air Field, Moscow, Russia. Research in spatial orientation of echolocating bats, and adaptation to radiation, longitudinal and transverse accelerations, macro-gravity and weightlessness of parabolic flight.

- SERVICE TO BRANDEIS UNIVERSITY:

**2015, October 23-24** Presented a poster, *Influence of sleep deprivation and motion on motion sickness and cognitive and motor performance*, coauthored: Kaplan J, Ventura J, DiZio P, Lackner JR, at Biology and Control of Nausea and Vomiting 2015 conference in Pittsburgh, PA; <http://emesis2015.com/> .

**2015, May 6** Invited lecture at the Binah School, a Jewish High School for girls in Sharon MA: *Science of Space Exploration and My Personal Journey*.

**2015, Feb 11** Invited speaker at Tufts University Hillel: *History of Refuseniks and Russian/Soviet Jewish emigration*.

**2014, Oct 8** AGSOL/SIRIUS lab tour and participatory demos for the Afterschool Program of Waltham Public Schools.

**2014, July 17** Featured, together with James R. Lackner and Paul DiZio, in BrandeisNOW webzine article commemorating the 40<sup>th</sup> anniversary of Lunar Landing by the US astronauts in July 1974. See <http://www.brandeis.edu/now/2014/july/40th-anniversary-lunar-landing.html>

**2013, Dec 8** LimmudBoston2013 ([www.LimmudBoston.com](http://www.LimmudBoston.com)) all-day Conference of Jewish Experience and Learning. Lecture *Jews in Space: Of Life Years and Light Years*, on how to preserve Jewish cultural and religious identity through the cosmic dimensions of space, time, and gravity (or lack of it!). Interactive presentation to children on *Jews in Space*, at CampLimmud.

**2013, Nov 21** Lecture and AGSOL/SIRIUS tour for students of Metro-West Jewish Day School (MWJDS) of Framingham, MA.

**2013, Jun 2-5** Presented at Next-Generation Suborbital Researchers Conference (NSRC), Boulder, CO. Kaplan, J., Lackner, J.R., DiZio, P., Panic, A., Panic, H., Ventura, J. Astronaut performance during G transitions: a SIRIUS approach to suborbital flight training.

**2013, Apr 24** Conducted Graybiel Lab event for Psy Chi (Psychology Honors) Society on space research and applied opportunities in space exploration using insights gained from research.

- 2013, Apr 18** Conducted Graybiel lab event for Brandeis National Committee (formerly, Brandeis National Women's Committee).
- 2013, Apr 14** Conducted Graybiel Lab tours for accepted students' Open House, highlighting science research opportunities for students at Brandeis.
- 2013, Oct 17 & Feb 27** RISD events for class of Prof. Shona Kitchen: lectures and AGSOL tours.
- 2013, Jan 12** Conducted Graybiel Lab tours for incoming mid-year students, highlighting science research opportunities for students at Brandeis
- 2013, Jan 11** Interviewed by James Ellis ([james@topixmedia.com](mailto:james@topixmedia.com)), Assistant Editor of Topix Media Lab, LLC, 1065 Avenue of the Americas, New York, NY 10018, (<http://www.topixmedialab.com/>) on dangers and challenges of spaceflight.
- 2012, Nov 16** Co-presented (with Joel Ventura) and co-led AGSOL lab tour for Greater Boston Experimental Aircraft Association, Chapter 106.
- 2012, Oct 14** Conducted Graybiel Lab tours for incoming undergraduate students and their families during Brandeis FallFest event, highlighting cutting edge studies in space research done at the lab, and science research opportunities for students at Brandeis
- 2012, Sept 18** Organized and conducted a promotional event for Premier Entertainment of UK <http://www.premiercomms.com/> for DVD release of the film *Prometheus*. Subsequent publication in UK media and on [www.yahoo.com](http://www.yahoo.com) by Jessica Mellor, <http://uk.movies.yahoo.com/blogs/movie-editors/prometheus-science-fiction-vs-science-fact-163604715.html>
- 2012, Mar 29** Delivered a lecture, *Astronaut Training for Private Flight: Sensorimotor Human Factors*, at Massachusetts College of Pharmacy and Health Sciences, as part of Medical Humanities Interest Group Lecture Series.
- 2012, Feb 26-29** Next-Generation Suborbital Researchers Conference, Palo Alto CA. Presented two talks. At Life Sciences Session: Training for Commercial Spaceflight: Human Factors. At Parabolic Flight Session: Suborbital Spaceflight Training: Parabolic Flight Analog Environment.
- 2011, Oct 18-21** Represented the Graybiel Lab and Brandeis University at the 2011 International Symposium for Private and Commercial Spaceflight, Spaceport America, Las Cruces, NM
- 2011, Oct 3** Featured, together with Paul DiZio and James Lackner, in NavyTimes article by Joshua Stuart on ONR study, *Sleep deprivation at sea*.

- 2011, Sept 12** Featured, together with Paul DiZio and James Lackner, in BrandeisNOW webzine on ONR study, *Evaluating the influence of ship-like motion on fatigue models of human performance*. See <http://www.brandeis.edu/now/2011/september/sleepstudy.html>
- 2011, Jul 14** Organized MOU/cooperation agreement between AGSOL and Astronauts4Hire (<http://www.astronauts4hire.org>), a non-profit company preparing payload astronauts for private space flight. Organized A4H visit to the Graybiel Lab. See BrandeisNOW coverage: <http://www.brandeis.edu/now/2011/july/graybiel.html>
- 2011, Jan 19** Featured, together with James Lackner, in PBS's NOVAscienceNOW program with Neil deGrasse Tyson on artificial gravity research at the Graybiel Lab. See: <http://www.brandeis.edu/now/2011/january/sciencenow.html>, or: <http://www.pbs.org/wgbh/nova/space/can-we-make-it-to-mars.html>
- 2011 – current** Member, Faculty Committee for Brandeis-Genesis Institute for Russian Jewry (appointed by Provost, May 2011)
- 2010, Dec 5** Moderated BGI students' Hanukkah celebration discussion on transforming Hanukkah from commemoration of an historical event into a Christmas substitute: *Hanukkah: a V-Day celebration metamorphosis*
- 2010, Oct 12** Presented Graybiel Lab at Psychology Department Research Night, to showcase the lab's research and recruit involvement from undergraduate students
- 2010, June 29** Helped organize, and was featured in PBS's NOVAscienceNOW program on artificial gravity research at the Graybiel Lab, with Neil deGrasse Tyson. See: <http://www.brandeis.edu/now/2010/july/novashoot.html>
- 2010 – 2011** Member, Faculty Advisory Committee, Brandeis-Genesis Institute for Russian Jewry (joined 11 April 2010).
- 2010, Jan 29** Featured in Brandeis Hoot article on the Graybiel Lab research and role at Brandeis, <http://thebrandeishoot.com/articles/7229>.
- 2009, fall** Member, Strategic Planning group to formulate the Proposal for Brandeis University engagement with Genesis Institute for Russian Jewry. Brandeis received 10.8 million dollars funding of the Proposal in April 2009.
- 1997 – current** Guest lecturer on the Soviet Space Program, for Professor James R. Lackner's class, Man in Space. Usually, once per semester. Conduct Graybiel Lab tours for students in Professor Lackner's other classes. Also, once per semester.

- 1999 – current** Member, Academic Advisory Committee, Hadassah-Brandeis Institute on the study of Jewish women. In addition to evaluating grant applications, I value my role in bringing issues of Russian Jewish émigré women, and women in science, to the Institute’s work.
- 1983 – current** Organize Graybiel Lab tours for groups and individuals – children and adults – from Brandeis, Waltham, and the Greater Boston area communities, including schools, businesses, media, and industries interested in space research and exploration.
- 2011, January 19** Featured in PBS NOVA Science Now with Neil deGrasse Tyson in a special on challenges of flights to Mars, in the segment on weightlessness and artificial gravity/rotating environments. See <http://www.brandeis.edu/now/2011/january/sciencenow.html> and <http://www.pbs.org/wgbh/nova/space/can-we-make-it-to-mars.html>
- 2008, July 25** Organized visit to Brandeis, with lecture and Graybiel lab tour, for State Representative Kay Khan, her staff and interns. See: <http://www.dailynewstribune.com/news/x280665433/New-spin-on-politics-and-science-State-Rep-Kay-Khan-tours-Brandeis-lab> . Also: <http://www.brandeis.edu/now/2008/august/SpatialLabVideo.html>
- 2005, June 28** Featured in the *Boston Globe* “Meeting the Minds” article, *Former Soviet caught by gravity’s pull*. By Keith O’Brien. See: [http://www.boston.com/news/globe/health\\_science/articles/2005/06/28/former\\_soviet\\_caught\\_by\\_gravitys\\_pull/](http://www.boston.com/news/globe/health_science/articles/2005/06/28/former_soviet_caught_by_gravitys_pull/) . Also: [http://www.graybiel.brandeis.edu/history/jannakaplanbostonglobe.pdf?section\\_id=8&article\\_id=249](http://www.graybiel.brandeis.edu/history/jannakaplanbostonglobe.pdf?section_id=8&article_id=249) .
- 2001, March 14** Featured in *Daily News Tribune*, in an article by Patrick Golden, *Key to Space Travel’s Future*, about the Graybiel Lab research.
- 1995 – 2000** Member of the Women’s Studies Program, Brandeis University
- 1999, May 22** Co-host, with Professor James R. Lackner, of Senator John Glenn, Brandeis University Commencement Speaker and Honorary Degree recipient.
- 1998 – 1999** Member, Steering Committee on Russian émigré students, American Jewish Committee’s Leadership Project and Brandeis Hillel.
- 1996, June** Participated in the revisions of the Brandeis Administration’s report, *Brandeis University and its service to the Jewish Community*, at the request of John R. Hose.
- 1996 – 1997** Co-editor, with Shulamit Reinharz, of the Proceedings of the Feb. 1966 conference (see below). Published as *Gender Issues in Jewish Day*

*Schools* by Cohen Center and Institute for Community and Religion, Brandeis University, 1997.

**1995 – 1996**

Co-organizer, with Shulamit Reinharz, of the conference, *Exploring Issues of Gender and Jewish Day School Education*, Held February 1996, Brandeis University.

**1992, March 6**

Published a commissioned Op-Ed, *Understanding the Logic of Emigration*, in *The Jewish Advocate*, March 6-12, 1992, p.9. The piece became a required reading for immigration workers in the Russian Jewish Resettlement Program of the Greater Boston Jewish Community. It also resulted in numerous lectures and workshops I gave in the area synagogues and community centers, not listed in this CV.

**1991 – 1992**

Co-author of study and Report on the needs of Russian émigré students at Brandeis University, *Russian Émigré students at Brandeis: Who are they and what do they need to optimize their Brandeis education*, with Professor Nancy Bloom, Hornstein Program.

• SERVICE OUTSIDE BRANDEIS UNIVERSITY:

**1985 – present**

Lectures and lab touts on Space Research and Exploration, in public and private schools in the Greater Boston area (listed since 2000 only):

- Binah School, a Jewish High School for girls in Sharon MA: 5/6/2015
- Tufts University Hillel: 2/11/2015
- Afterschool Program of Waltham, MA Public Schools: 10/8/2014
- RISD: Rhode Island School of Design: 2/27/2013, 10/17/2013
- Prometheus 20 Century Fox event: 9/18/2012
- Mass College of Pharmacy and Health Professions: 3/29/2012
- Gann Academy-New Jewish High School: 3/29/12
- Newton North High School: 11/3/03, 3/17/04, 11/15/07, 3/28/08
- Mass. College of Pharmacy and health Sciences (annual): 11/4/2002-2012
- Brandeis Summer School: once every summer
- Jewish Community Day School: 2/1/01, 5/22/02, 2/26/03, 12/3/03
- Rashi Jewish Day School, Newton MA: 5/11/01
- South Area Schechter School, Sharon, MA: 5/9/03, 5/6/05
- Gan Yeladim Pre-school, Newton MA: 2/14/01
- Lemberg Children's Center at Brandeis: 11/17/00, 4/20/11, 2/21/2012; 2/19/2013
- McAuliffe Regional Public Charter School, Framingham MA: 2/10/06
- Weston High School: 12/12/07
- Weston High School senior interns: 2007, 2009, 2012 (Sarah Connor)
- Beaver Country day School, Chestnut Hill MA: 5/14/04
- Watertown Middle School: 5/4/07
- Lexington Montessori School: 3/14/03
- Eliot Montessori School, Natick MA: 12/8/00, 1/31/03

**2008, March 28**

Lecture to students of science classes at the Newton North High School: *The Science of Space Exploration*.

- 2007, Nov. 15** Delivered first, inaugural lecture at the Newton North High School Huntington Lecture Series, *My Journey, in Space and Time: Personal Reflections on the Science of Space Exploration*.
- 2006, May 7** Panel speaker on *Rebuilding Lives: the Experiences of Jewish Women Immigrants*, at Temple Beth Am, Randolph, MA.
- 2004, June 12** Lecture at 83rd Annual Graduate Women in Science National Meeting hosted by [Alpha Omega](#) (Boston) chapter, at Northeastern University, Boston: *Science of Space Exploration: A Journey in Space and Time*. <http://www.dna.neu.edu/GWIS.html>
- 2004, May 3** Featured speaker at Austin Women’s Professional development Series, Austin TX: “My Journey, in Space and Time: How a Jewish Girl from Russia became an American Space Scientist.”
- Two other talks during this trip to Austin TX: at Applied Technologies, Inc. and Jewish Community Center.
- 2001, April 7** Organized and led the Jewish Community Center of Greater Boston Passover Seder for Jewish Singles.
- 1995 – 2003** Co-leader, with Shulamit Reinharz, of the annual Jewish Women’s Passover Seder for American and Russian immigrant Jewish women.
- 1993 – 2003** Organized science enrichment programs at the Solomon Schechter Day School of Greater Boston, grades K-8.
- 1993 – 2002** Organized ‘Empowerment through Science’ programs for middle school girls, in cooperation with KEYS program/MIT Public Service Center, and with the Museum of Science. KEYS – Keys for Empowering Youth – is a program designed to help get middle school girls interested in math, science and engineering.
- 1997 – 2000** Educational Policy Committee member, Solomon Schechter Day School of Greater Boston.
- 1998 – 1999** Taught a class, *Space Exploration: Science, Film, and Novel*, at Solomon Schechter Day School of Greater Boston, Afterschool and Enrichment Program.
- 1994 – 1996** Committee on Gender Equity, chair  
Solomon Schechter Day School of Greater Boston
- 1993 – 1996** Lemberg Children’s Center, Vice-President of the Board.

- **MEMBERSHIPS:** American Association of University Women
- **LANGUAGES:** English; Russian
- **PUBLICATIONS:** by Eugenia (Janna) Kaplan, a.k.a. Eugenia Lipmanova



1. Lipmanova, E. and Sokolov, B.V. Echolocation estimation of movement velocity in Rhinolophiden bats. Vestnik of Leningrad University, Series Biology, No. 15, 1977, pp. 95-103.
2. Lipmanova, E., Zvorykin, V.N. and Nogteva, O.V. Comparative characteristics of the influence of prolonged axial and transverse accelerations on bats. Nervous System, issue 18, Leningrad University Press, 1978, pp. 159-164.
3. Lipmanova, E., Konstantinov, A.I., Makarov, A.K. and Sokolov, B.V. Doppler echolocation systems in animals. Nervous System, issue 20, Leningrad University Press, 1978, pp. 46-60.
4. Janna Kaplan, *Understanding the logic of emigration*. The Jewish Advocate, March 6-12, 1992, p.9
5. Janna Kaplan and Shulamit Reinharz, Eds. *Gender Issues in Jewish Day Schools*. Conference Proceedings. Cohen Center and Institute for Community and Religion, Brandeis University, 1997.
6. Janna Kaplan. *Of Nursing, in the Desert*. In: *The Women's Passover Companion: Women's Reflections on the Festival of Freedom*, Jewish Lights, 2003, pp. 177-181.
7. Janna Kaplan, Translator (from Russian). *Song of the Falcon*, by Maxim Gorky. Slovo/Word, vol. 71, Aug 2010, pp. 23-27.

- **CONFERENCES:** by Janna Kaplan, a.k.a. Eugenia Lipmanova

1. Lipmanova, E., Makarov, A.K. and Sokolov, B.V. Dynamic properties of the Doppler echolocation system in Rhinolophiden bats. The IX All-Union Acoustical Conference, Moscow, 1978. Published: Theses, pp. 49-52.
2. Lipmanova, E., Gorlinsky, I.A., Konstantinov, A.I., Makarov, A.K. *Doppler echolocation system in Rhinolophiden bats*. The XI International Conference of COMECON Countries Bionica-78, Leningrad, 1978. Published: Theses, pp. 92-94.
3. Janna Kaplan and Susan Shevitz. *Organizational Change: The Jewish Day School Context*. Workshop presented at the conference which I co-organized, *Exploring Issues of Gender and Jewish Day School Education*, Brandeis University, 1996.
4. DiZio, P., Ventura, J., Kaplan, J., Schleifer, I., Lehmann, M., Lackner, J.R. *A Method for Parametric Evaluation of Angular Path Integration and Dynamic Spatial Orientation*. *Soc. Neuroscience*, 2008.
5. Kaplan, J., Lackner, J.R., DiZio, P., Ventura, J. *Suborbital Spaceflight Training: Parabolic Flight Analog Environment*. *Next-Generation Suborbital Researchers Conference*, Palo Alto, CA. 26-29 Feb 2012.
6. Kaplan, J., Lackner, J.R., DiZio, P., Ventura, J., Shiro, B., Saraiva, L., Reimuller, J., Seedhouse, E. *Training for Commercial Spaceflight*. *Next-Generation Suborbital Researchers Conference*, Palo Alto, CA. 26-29 Feb 2012.

7. Kaplan, J., Lackner, J.R., DiZio, P., Panic, A., Panic, H., Ventura, J. *Astronaut performance during G transitions: a SIRIUS approach to suborbital flight training*. Next-Generation Suborbital Researchers (NSRC) Conference, Boulder, CO. 2-5 Jun 2013.
8. Kaplan J, Ventura J, DiZio P, Lackner JR. *Influence of sleep deprivation and motion on motion sickness and cognitive and motor performance*. Poster presentation at Biology and Control of Nausea and Vomiting 2015 conference at the University of Pittsburgh, PA, 23-24 Oct 2015; <http://emesis2015.com/>