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Notes


2 Alan B. Kehlet, interview by author, San Jose, California, 30 September 2005, NASA Headquarters NACA Oral History Project, JSC History Collection at UHCL.

3 Jack A. Kinzler, interview by Robert Merrifield, 31 October 1967, Merrifield Interviews, JSC History Collection at UHCL.

4 Space News Roundup, 11 July 1962.

5 William A. Parker, interview by Robert Merrifield, 16 May 1967, Merrifield Interviews, JSC History Collection, University of Houston-Clear Lake, Houston, Texas.


The First Days in Houston

by Burton Chapman

1 “Man on the moon: Kennedy speech ignited the dream”, 25 May 2001

2 Hershel Rich, personal interview, 10 June 2005.


4 Henry Dethloff, Suddenly Tomorrow Came... A History of the Johnson Space Center (Houston: The NASA History Series Lyndon B. Johnson Space Center, 1993) 46-47.


6 Dethloff 74

7 Hershel Rich, personal interview, 10 June 2005

8 “The Gragg Building” 18 June 2007
http://www.houstontx.gov/parks/graggflash.html

9 Sam Roberts, phone interview with the author, 9 April 2008.

10 “About Us” www.houstonpbs.org 2 April 2008
Owls in Space: Rice University’s Connections to NASA Johnson Space Center

by Jessica A. Cannon

1 See the text of Kennedy’s speech available online at the Kennedy Presidential Library website: http://www.jfklibrary.org/Historical-Resources/Archives/Reference+Desk/Speeches/JFK/003POF03SpaceEffort09121962.htm (accessed April 30, 2008). Kennedy first announced the United States should aim to land a man on the Moon and return him safely at a speech before Congress on May 25, 1961.

2 Francelle Pruitt has written an article detailing the role of Congressman Albert Thomas in bringing the Manned Spacecraft Center to Houston, as well as highlighting some of his connections to Rice and Vice President Lyndon Johnson that aided Thomas in seeing his plan through to completion. See Francelle Pruitt, “Congressman Albert Thomas and NASA’s Coming to Houston: A Study in Legislative Effectiveness, 1936–1966,” in Southwestern Historical Quarterly 55 (April 2002), 583–614. Melissa Kean also details this story in her dissertation “‘At a Most Uncomfortable Speed’: The Desegregation of the South’s Private Universities, 1945–1964” (Ph.D. diss., Rice University, 2000). See also: Interview with Malcolm Lovett (January 21, 1971), Center History Discussions- Site Acquisition, Box 3, Merrifield Transcripts, Johnson Space Center History Collection at University of Houston-Clear Lake (hereinafter noted as JSCHC); Letter from James Webb to George R. Brown dated February 23, 1962, Apollo Chronological Files, Box 062-62, JSCHC; and copy of a letter from George R. Brown and Rice Universities attorneys to James Webb, January 23, 1962, in Box 9 Folder 3, Rice University Carey Croneis Office Records (Provost, Acting President, Chancellor), 1950-1972, Woodson Research Center, Fondren Library, Rice University (hereinafter cited as WRC). Also see Henry C. Dethloff, Suddenly Tomorrow Came...A History of the Johnson Space Center (Houston, 1993), 32–33, 37–51, also available online at: http://www.jsc.nasa.gov/history/suddenly_tomorrow/suddenly.htm (accessed April 30, 2008).

3 NASA Release #61-207 dated September 19, 1961, in Box 9 folder 3, Rice University Carey Croneis Office Records (Provost, Acting President, Chancellor), 1950-1972, WRC. See also “NASA To Build Space Center On Clear Lake,” section 1 page 1, and “Space Center Here Means New Era In Science and Progress for Area,” section 3 page 2 both in the September 20, 1961, edition of the Houston Post. The Post ran articles about the MSC for several days, including a special profile on Albert Thomas (section 2 page 1, September 24, 1961) and a write-up on the new center director Robert Gilruth (section 1 page 1, September 24, 1961).

4 Interview with Martin A. Byrnes, Center History Discussions-Center Operations Management, Box 1, Merrifield Transcripts, JSCHC, especially pages 5–7 and 18–26. For information on the football game see: “Record Crowd Sees Rice beat LSU, 16-3,” section 3 page 1, Houston Post, September 24, 1961.

5 Memo regarding the Manned Space Flight Center from Croneis to Members of the Board of Governors dated August 31, 1961; Letter from George R. Brown to James E. Webb dated June 20, 1961; Letter from Croneis to James Webb dated October 16, 1961; Notes and Agenda for Homer Newell’s visit to Rice in a Memo to Croneis dated December 15, 1961, all found in Box 9 folder 3, Rice University Carey Croneis Office Records (Provost, Acting President, Chancellor), 1950-1972, WRC. See also letter from Pitzer to Homer Newell dated December 28, 1962, Box 11 folder 1, Rice University President Kenneth Pitzer Office Records, WRC.

6 “Our Interest in Rice University,” a memo “for the Administrator” written by Homer Newell dated November 14, 1961, Apollo Chronological Files, Box 062-52, JSCHC. See also “Conference Report: Visit to Rice University” by Newell dated December 19, 1961, Apollo Chronological Files, Box 062-54, JSCHC.
Owls in Space: Rice University’s Connections to NASA Johnson Space Center (cont.)

7 “Rice University and Houston in the Space Age,” Box 49 folder 9, Rice University President Kenneth Pitzer Office Records, WRC.

8 It should be noted that although it was the first Department of Space Science, several other universities across the nation had coursework in what were aspects of space science; they simply taught them in the Physics Department. Quotations are from Rice University News Release, January 4, 1963, Box 11 folder 1, Rice University President Kenneth Pitzer Office Records, WRC. See also: Memo from Pitzer to J. Newton Rayzor dated December 14, 1962; Memo from Pitzer to Deans and Department Chairs dated January 2, 1963; and a letter written by A. J. Dessler dated January 1963, all found in Box 11 folder 1, Rice University President Kenneth Pitzer Office Records, WRC.

9 Memo from Franz Brotzen to Pitzer, December 28, 1962, Box 11 folder 2; “Ground-Breaking for the Space Science and Technology Building, February 12, 1965,” “Opening Remarks by Dr. Pitzer,” and Note on Albert Thomas’s announcement of NASA support for the building, all in Box 11 folder 6, Rice University President Kenneth Pitzer Office Records, WRC. “Support of Facilities Grant at Rice Institute, 4 February 1964,” and “Review of Proposal #44-06-(014) Support of an Institute for Space Technology and Science at Rice University, 11 May 1964,” both in Box 075-12, Apollo Lunar Science Chronological Files, JSCHC. John B. Boles, A University So Conceived: A Brief History of Rice University, third revised and expanded edition (Houston, 2006), 40.

10 Rice University News Release, June 19, 1963, Box 11 folder 2, Rice University President Kenneth Pitzer Office Records, WRC. The news release lists O’Brien’s and Laughlin’s institutional affiliation as the “State University of Iowa,” where they worked with James Van Allen. It is now referred to as the University of Iowa in Iowa City (as opposed to Iowa State University in Ames, Iowa). Interview with Brian J. O’Brien, May 3, 2008, by the author (hereinafter noted as Brian O’Brien Interview).

11 One such student, James L. Burch (Rice Ph.D. 1968), is currently Vice President of the Southwest Research Institute and continues to study the magnetosphere, and one of his students, Dr. Patricia Reiff (Rice Ph.D. 1975) is now Professor in the Physics and Astronomy Department as well as head of the Rice Space Institute. Rice University News Release, January 6, 1963, Box 11 folder 2; Quarterly Report by B. J. O’Brien on the Satellite Techniques Laboratory, dated September 15, 1964, Box 11 folder 3; Memo from A. J. Dessler to K. S. Pitzer dated March 23, 1964, Box 11 folder 2; Report on Sammy 5 dated March 23, 1964, Box 11 folder 2 (quotation); and Memo from B. J. O’Brien to K. S. Pitzer on the “Flight of Sammy 1” dated January 24, 1964, Box 11 folder 2, all in the Rice University President Kenneth Pitzer Office Records, WRC. Information on Rice alumni is based on the author’s interview with Brian O’Brien, as well as the following sources: James Leo Burch, “High-Latitude Satellite Observations of Electrons and Protons at 4000 KM” (Ph.D. diss., Rice University, 1968), and the Rice Space Institute website, http://rsi.rice.edu/ (accessed May 5, 2008). Another alumnus from this era who has since returned to work at the RSI is Arthur Few.

An “Owl Spacecraft Schedule” dated August 9, 1967 shows the scheduled launch dates for Owl 1 as August of 1968 and September of 1968 for Owl 2. The schedule can be found in the Owl Satellite Information File, WRC. Independent inquiry by the author with Professor Patricia Reiff of the Rice Department of Physics and Astronomy, and with Brian J. O’Brien, confirmed that the Owls were never launched, but that the technology was quite advanced for the time and was later utilized on other projects.

Information on the Aurora 1 is from Brian O’Brien Interview. O’Brien plans to publish his memoirs, “Cave, Moon, and Saving Spaceship Earth,” in the future. See also: Vincent Beauchamp Wickwar, “Photometers on the Satellite Aurora 1” (Ph.D. diss., Rice University, 1968).


Brian O’Brien Interview. Curt Michel, a professor at Rice in 1963 and again after 1969, was a scientist-astronaut at the MSC from 1964 to 1969.

Mutually Beneficial: University of Houston – Clear Lake and NASA Johnson Space Center

by Shelly Henley Kelly

2 MSC Announcement 64-104. General Reference Box 1012, Center Series, JSC History Collection at UHCL.
6 UHCL Archives. #1990-0002 UHCL. Chancellor (Neumann) Records, Box 1, Folder 4.
9 UHCL Archives. #1990-0002 UHCL. Chancellor (Neumann) Records, Box 73, Folder 33 and Box 74, Folders 1-2.
11 UHCL Archives. #1990-0002 UHCL. Chancellor (Neumann) Records, Box 52, Folder 15.
12 UHCL Archives. #1990-0002 UHCL. Chancellor (Neumann) Records, Box 20, Folder 11.
14 UHCL Archives, #1990-0002 UHCL. Chancellor (Neumann) Records, Box 52.
15 UHCL Archives, Vertical File, “Developmental Arts Building.”
17 UHCL Archives. #1999-0013 UHCL. Chancellor (Stauffer) Records, Box 7, Folder 20.
18 UHCL Archives. Vertical File, “The Artist and the Space Shuttle.” Dr. Stauffer’s title of Chancellor was changed to President in 1986.
19 UHCL Archives. #1999-0013 UHCL. Chancellor (Stauffer) Records, Box 7, Folder 19.
20 UHCL Archives. #2001-0003 UHCL. Chancellor (Stauffer) Records, Box 3, Folder 1. Also see Justification for Non-Competitive Procurement, FA 83-87. Loftus Papers Box 34, Center Series, JSC History Collection at UHCL.
The Moon Rocket

by Jennifer Ross-Nazzal

Notes

1 Christopher C. Kraft to John Yardley, Telegraphic Message, 20 May 1976, Saturn V at JSC – Part I, JSC Digital Collections, JSC History Collection at UHCL.

2 John E. Naugle to Kraft, 17 June 1977, Disposition of Residual Apollo Hardware, Saturn V at JSC – Part I, JSC Digital Collections, JSC History Collection at UHCL.

3 Roundup, 16 September 1977.

4 Roundup, 30 September 1977.
Landmarks at Johnson Space Center

by Jennifer Ross-Nazzal

Notes

1 These are the dimensions of Chamber A. Aleck C. Bond, interview by Summer Chick Bergen, Houston, Texas, 25 August 1998, JSC Oral History Project, JSC History Collection at UHCL.
A Home for Heroes—Timber Cove

by Rebecca Wright

Notes


4 Aleck and Tassie Bond and Bernie Goodwin, interview by Rebecca Wright and Jennifer Ross-Nazzal, Houston, Texas, 21 September 2003, JSC History Office, Houston, TX.

5 Deborah Griffin, e-mail to author, 1 May 2008.

6 Bond and Goodwin, interview.

7 Kinzler and Shows, interview.

8 Kinzler and Hinners, interview.


10 Ibid.

11 Deborah Griffin, e-mail to author, 2 May 2008.
Red, White, & Blue—
U.S. Flag at Home on the Moon

by Sandra L. Johnson

1 Jack Kinzler, interview by Paul Rollins, January 16, 1998, CD, transcript, JSC Oral History Project, JSC History Collection, University of Houston-Clear Lake, University Archives, Houston, TX.

2 Jack Kinzler, interview by Roy Neal, April 27, 1999, CD, transcript, JSC Oral History Project, JSC History Collection, University of Houston-Clear Lake, University Archives, Houston, TX.

3 Jack Kinzler interview by Robert Merrifield, October 31, 1967, Oral History, CD, transcript, Merrifield MSC History Interviews, JSC History Collection, University of Houston-Clear Lake, University Archives, Houston, TX.


5 Ibid.

6 Jack Kinzler interview, April 27, 1999.


8 Jack Kinzler, interview by Rebecca Wright, March 26, 2008, WAV, JSC History Office, Houston, TX.

9 Ibid.

10 Jack Kinzler interview, April 27, 1999.
Legacy of the 35 New Guys

By Jennifer Ross-Nazzal

Notes

1 In fact, he received a telegram from his mother on January 18th that said, “Well done,” and then received the official nod from the space agency. *The Houston Post*, 1 February 1978.

2 Richard O. Covey, interview by author, Houston, Texas, 1 November 2006, JSC Oral History Project, JSC History Collection at UHCL.

3 Sally K. Ride, interview by Rebecca Wright, San Diego, California, 22 October 2002, JSC Oral History Project, JSC History Collection at UHCL.


5 Ride, interview.


7 *Roundup*, 3 February 1978.


9 Covey, interview.

10 Frederick H. Hauck, interview by author, Bethesda, Maryland, 20 November 2003, JSC Oral History Project, JSC History Collection at UHCL.

11 Kathryn D. Sullivan, interview by author, Columbus, Ohio, 10 May 2007, JSC Oral History Project, forthcoming.

12 *The Houston Post*, 1 February 1978.

13 Hauck, interview.

14 John M. Fabian, interview by author, Houston, Texas, 10 February 2006, JSC Oral History Project, JSC History Collection at UHCL.


16 Terry J. Hart, interview by author, Houston, Texas, 10 April 2003, JSC Oral History Project, JSC History Collection at UHCL.

17 *Frederick (MD) News*, 20 May 1981.

18 Fabian, interview.


20 Ride, interview.

21 Ibid.
Legacy of the 35 New Guys (cont.)


23 Terry Hart left the agency in 1984, to return to AT&T.

24 Hauck, interview.