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THE PRAIRIE ASTRONOMER

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Theorist Suggests That "Black Holes" May Be Explosive

Black holes, originally thought to be the most "passive" objects in the universe, now appear to be the most active and explosive ones, according to a theorist who has spent much of the past five years analyzing their characteristics.

At a Cornell University symposium, the theorist, Dennis W. Sciama, described the revised concept of black holes as "a conceptual revolution" to which theorists are "still trying to adjust."

The theory has been widely accepted by specialists, assuming that black holes do, in fact exist. In spite of evidence suggesting the presence of black holes, their existence has never been demonstrated conclusively.

For the first time the concept brings together three seemingly disparate aspects of nature on the most fundamental level. These are thermodynamics (dealing with heat), relativity theory (as it effects gravity) and quantum behavior (on the atomic level). Some therefore rank the concept as the most important development in theoretical physics since the formulation of Einstein's famous equation specifying the energy released when matter is converted to energy.

The original concept of a black

hole referred to the final stage in the history of a huge star, one with more than three times the mass of the sun. When such a star exhausts its nuclear fuel and is therefore deprived of an internal heat source it should collapse to extreme density.

As described by Dr. Sciama, the discovery of pulsars, rotating superdense neutron stars produced by stellar collapse, made the occurrence of even more extreme collapse to a black hole seem plausible. The density of a black hole would be so great that it would create a gravity field strong enough to prevent the escape of light or anything else. It would appear as a "black hole" in space, utterly cold in that it could radiate no heat.

In the Milky Way galaxy to which the sun and Earth belong there are a

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OCTOBER MEETING FOR ELECTIONS

Your chance to influence the course of destiny comes at October's meeting...the annual election of officers of the Prairie Astronomy Club. Election day festivities begin at 7:30 p.m., Tuesday, October 23 at Hyde Observatory. Remember, to vote, you must be a member in good standing.

PRESIDENT'S REPORT:

With our annual elections coming up at this month's meeting, I've been thinking about our members' participation in club events. By my rough count, we have about 50 members in this general area. About 15 of these are "extremely active" members. They participate in almost all our activities, organize those activities, hold club offices, and, in general, carry the club on their shoulders.

In addition to these, there are about 15-20 more members who are "participating" members. They attend meetings, take part in one or two activities which are of interest to them, help out in other activities when called upon, and, in general, make the club go.

Then comes a group of about 10 or so...the "watchers." They come to an occasional meeting, have a definite interest in astronomy, but they do very little in the way of group participation.

And then there are a few members, about 3 or 9, whom I call the "unknowns." They've never been to a meeting or participated in any function. The only thing these members contribute to the club is their \$14.00 membership fee, and, in return, the only thing they get from the club is SKY & TELESCOPE magazine and a monthly newsletter.

Actually, this level of participation (about 70%) is pretty good for a club like ours. Our members' ages range from 7 years old to well over retirement (don't worry, some of you, I won't reveal any personal information), their experience ranges from rank beginner to professional astronomer, and their interests lie everywhere on the astronomical spectrum. Our club tries to have activities for all of these people. We have Lincolnfest and Astronomy Day booths for those who want to make friends and talk to people, we operate Hyde Observatory for those who like to talk astronomy to the public and share their knowledge, we have programs at the meetings and teach Astronomy classes for

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"Prairie Astronomer Exclusive" -- Pre-Election Foldout

With the annual election of officers coming up at this month's meeting, your newsletter editor decided to follow the great newspapers and provide a capsule background on each candidate nominated at the last meeting. We hope this will be especially valuable to new members who may not know the candidates very well. Additional nominations, of course, can take place before the actual election Tuesday night.

Each candidate was asked to supply the following information about herself/himself, and the responses are printed by question number.

1. Place, and date of birth.
2. Length of residence in Nebraska.

3. Length of membership in Prairie Astronomy Club.

4. Membership in other astronomical or scientific organizations. Membership in other organizations.

5. Offices held in P.A.C., and approximate dates.

6. Occupation.

7. Educational background beginning with high school, ending with any current endeavors.

8. Marital status, spouse's name, children if any.

9. Special interests in astronomy. Other special interests and hobbies.

10. Participation in club activities.

11. Campaign statement: "If elected, I shall..."

PRESIDENT

RON VEYS*

1. Lincoln, Nebraska, December 20, 1949.
2. Lifetime.
3. 4 Years.
4. Registered Professional Engineer-Nebraska; Pi Tau Sigma (Mechanical Engineering fraternity), Sigma Tau (national Engineering fraternity), Tau Beta Pi (same), Phi Eta Sigma (scholastic honorary), Belgian-American Society, Hyde Observatory Committee.
5. Vice President, 1977-78; President, 1978-Present.
6. Hydrologic Engineer, Nebraska Natural Resources Commission.
7. High school-Creighton Prep, 1968; B.Sc. UNL, 1973; M.Sc. UNL, 1976.
8. Married, wife Cindy, 1 daughter Melissa.
9. Telescope making, astrophotography, Astronomy teaching. Building

"anything", photography, cartography, reading (especially science fiction),

*indicates incumbent

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CANDIDATE PROFILES (Continued from Page 3)

movies (when he can afford them), stereo and electronics.

10. Star parties, Astronomy Day, Lincolnfest, Observatory operator, helped in building solar telescope and club scope donated to observatory.

11. "I will continue the programs already begun, such as Messier Group, and improve the programs presented at meetings, with the help of the Program Chairman. I will strive to get members more active with new activities such as those started in the past few years."

VICE PRESIDENTRUSS GENZMER

1. Deschler, Nebraska, May 19, 1951.
2. Lifetime.
3. 2 Years.
4. Apple Computer Club of Lincoln.
5. None.
6. Computer Systems Manager, Team Electronics.
7. High School-Deschler, 1969; Nebraska Technical College, 1972.
8. Married, wife Pat, 1 son Andy.
9. Radio astronomy, galaxy and globular cluster observation, computer controls for telescopes. Long distance running.

10. Astronomy Day, Lincolnfest, star parties, observatory operator, donated and installed observatory amplifier, sold posters through business.

11. "I will concentrate my efforts on a membership drive to obtain new members for the club, and intensify interest in the astronomy club in the community."

JOHN LAMMERS*

1. Scottsbluff, Nebraska, January 25, 1957.
2. Lifetime.
3. 3 Years.
4. Lincoln Amateur Radio Club, American Radio Relay League, UNL Amateur Radio Club, Lancaster County and UNL chapters of American Red Cross.
5. Vice President, 1979-Present.
6. Student.
7. High school-Fairbury, 1975; Music Education, Southeast Community College, 1976; Undergraduate UNL in Physics.
8. Single.
9. Observational astronomy specializing in globular clusters and planetary nebulae, avid reader on astronomy, black holes, quasars, extraterrestrial

life, radio astronomy.

10. Observatory operator, helped at Lincolnfest, club picnic, Astronomy Day.

11. "I will promote the stargazing image of the Prairie Astronomy Club among the public in person-to-person contact, heightening interest in simple visual astronomy."

SECRETARY

DONN BAKER

1. Lincoln, Nebraska, September 21, 1950.

2. Lifetime.

3. 11 Years.

4. U.S. Chess Foundation.

5. Vice President (years unknown).

6. Maintenance Technician, Guld Mfg. Co.; host-busser, Valentino's.

7. High School-Lincoln Northeast, 1968; Undergraduate, UNL.

8. Single.

9. Astrophotography, photography, computers.

10. Midstates conventions (2), National conventions: Boulder, 1977, Dallas, 1980, some star parties.

11. "I will provide more organized minutes on meetings."

MERTON SPRENGEL

1. Corranbong, New South Wales, Australia, March 22, 1937.

2. 14 Years.

3. 8 Years.

4. American Chemical Society.

5. Secretary, 1975-76.

6. Associate Professor of Chemistry, Union College.

7. High School-Griffith, N.S. Wales, Australia, 1952; B.Sc., Pacific Union College, 1959; M.Sc., Loma Linda University, 1966.

8. Married, wife Julia, 3 children.

9. History of astronomy. Photography, computers.

10. Hyde Observatory operator and Committee member.

11. "I will produce club minutes on a Hewlett-Packard 3000 within 3 months of each meeting."

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*indicates incumbent.

CANDIDATE PROFILES, Continued from Page 5TREASURERLEE THOMAS*

1. Lincoln, Nebraska, July 30, 1940.
2. 20 Years.
3. 11 Years.
4. Astronomical Society of Pacific, Association of Lunar & Planetary Observers, Astronomical League member-at-large. American Marketing Association, American Advertising Association, Lincoln Advertising Club, Beta Gamma Sigma (scholastic honorary).
5. Treasurer, 1975-Present. Editor, Prairie Astronomer, 1975-Present.
6. General Manager, KLMS Radio. Consultant, T-H Broadcast Research.
7. High School-Wheat Ridge, Colorado, 1958; B.Sc. UNL, 1964; M.A. UNL, 1967.
8. Single.
9. Observational astronomy, astrophotography. Stereo and theater sound systems, cinematography, writing, hiking.
10. Some star parties, production of club newsletter, Lincolnfest, Astronomy Day, observatory Committee member and operator, installation of observatory sound system, production of tape-slide programs.
11. "I will continue the club's sound fiscal policies, balanced budget, and strive to have available sufficient funds to accomplish the other candidate's ambitious spending schemes."

PROGRAM CHAIRMANJEANNE MILLER

1. Southgate, California, August 29, 1959.
2. 17 Years.
3. 1 Year.
4. Society of Creative Anachronisms (member designate).
5. None.
6. Student.
7. High school-Omaha Central, 1977; Undergraduate, UNL.
8. Married, husband Steve, 1 son.
9. Observational astronomy, constellation lore. Reading.
10. Astronomy Day, Lincolnfest, observatory operator, star parties.
11. "I will try to uphold the fine tradition of offering interesting programs at the club meetings each month, and I'll try to do it enough in advance to get it in the newsletter."

RICK JOHNSON*

1. Omaha, Nebraska, May 24, 1945.
2. Lifetime.
3. Charter member.
4. None. Nebraska State Bar Association, American Bar Association, Nebraska Society of Certified Public Accountants.
5. Treasurer, 1965-70; Vice President, 1976-77; President, 1977-78, Program Chairman, 1978-Present.
6. Accountant.
7. High School-Lincoln Southeast, 1963; B.Sc. UNL, 1967; J.D. UNL, 1970.
8. Single.
9. Astrophotography, observational astronomy. Amateur radio, computer science.
10. Star parties, Lincolnfest, Astronomy Day, grazing occultations, Messier Club, instructor-Messier Group, Observatory Committee and operator.
11. "I will continue to figure out programs about 5 minutes before each meeting...for example, this month's meeting..."

PRESIDENT'S MESSAGE (Continued from Page 2)

those who want to increase their knowledge, we have star parties and the Messier Group for those who are interested in serious observing, we teach Astrophotography and Telescope Making classes for those interested in those specialties, etc., etc. Remember: what you get out of a club like ours is directly proportional to the time and interest you put into it.

With this month's elections, we have the opportunity to elect a set of officers who will spend their time and energy over the next year to keep this club active and to improve it. Please consider this carefully, come to the meeting, and vote for the candidates you think will make your club what you want it to be--interesting, active, educational, and FUN!!

--- RON VEYS

Don't Forget Contest To Select A New Club Logo Design

At last month's meeting, members decided that they wanted a "club shirt", which would readily identify them as members of the Prairie Astronomy Club when they are working at Hyde Observatory, or otherwise appearing in public. The shirt will

be a nicely-styled knit sport shirt, deep blue in color, with a collar and a white club logo on the left breast. Hopefully, when ordered in quantity, the shirts will cost about \$6 to \$8.

We also decided to hold a contest

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EXPLOSIVE BLACK HOLES, From P. 1

billion stars that large.

Stephen Hawking and Jacob D. Beckstein have proposed that pairs of subatomic particles could cause energy to "tunnel" out of a black hole, raising its temperature. As it radiated, the black hole would lose mass until in its final stages it would radiate at a catastrophic rate, producing an explosion, "the most violent known to nature, or at least known to us," Dr. Sciamia said.

CONTEST, From Page 7--

to select a suitable club logo. Rules:

1. Logo must be an easily recognized design, have the name "PRAIRIE ASTRONOMY CLUB" spelled out and obviously displayed, and be easily reproducible.

2. Present designs to Ron Veys in displayable form (not just an idea) by November meeting, Nov. 25, 1980.

3. Names of submitters will not be revealed when voting takes place, only after winner is selected.

4. Variations on a theme by one submitter will all be considered his design.

5. In case of duplicate entries or similar designs, first idea submitted will be presented to club for vote.

So, get your creative juices flowing, and submit those entries to Ron Veys as soon as possible. The winning entry gets a free club shirt for its submitter.

The Prairie Astronomer
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FIRST CLASS MAIL

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