W.F.U. Authors. Faculty - Student

WINSTON-SALEM, NORTH CA

Professor Co-Authors Textbook

A Wake Forest University professor of physics is the co-author of a new book titled "Introduction to the Theory of Relativity."

He is Dr. Robert W. Brehme, a member of the Wake Forest faculty since 1959. The other author is Dr. Francis Weston Sears, Appleton professor of physics at Dartmouth College and author or co-author of a number of best-selling texts in physics.

BREHME

The relativity book is designed for upper-division courses in college. The publishers are Addison-Wesley Publishing Co.

Brehme received the B. S. degree from Roanoke College and the master's and Ph.D degrees from the University of North Carolina at Chapel Hill.

7/28/63

Science Teachers Will Convene Here

Topics ranging from student disinterest to visitors from outer space will be discussed here Thursday through Saturday when the N.C. Science Teachers Association holds its eigh annual convention.

Several hundred science teachers from across the state will attend the convention at Winston-Salem State University. The Hilton Inn will be the headquarters hotel.

Dr. Ernest Burkmans, director of Individualized Science Instructional Systems at Florida State University, will speak at Friday's general session. His topic will be "Coping With Disinterest and Falling Achievement."

Saturday's general session speaker will be Dr. Robert W. Brehme, a Wake Forest physics professor, whose topic will be "Astronomy and the Question of Visitors from Outer Space."

10/26/76

WS Journal

Teachers Meeting At WSSU

Several hundred science teachers from across the state will be attending the annual convention of the N.C. Science Teachers Association at Winston-Salem State University today through Saturday.

Dr. Ernest Burkmans, director of Individualized Science Instructional Systems at Florida State University, will speak at tomorrow's general session on student disinterest and falling achievement.

Saturday's speaker will be Dr. Robert W. Brehme, a Wake Forest physics professor, whose topic will be "Astronomy and the Question of Visitors from Outer Space."

Oct. 28, 1976 WS Sentinel

WF Physicist Explains

'UFOs Can't Be Manned By Extraterrestrial Beings'

By David Bailey
Staff Reporter

A Wake Forest University physicist takes the subject of UFOs very seriously.

In a recent lecture to the Forsyth Astronomical Society and the Tarheel UFO Study Group, Dr. Robert W. Brehme argued that it is virtually impossible for UFOs to be manned by extraterrestrials, and he bases his argument on scientific facts.

When Brehme lectures on UFOs, he always prefaces the lecture with an admonition: "I am a scientist, and as a scientist, I will limit my discussion to only that which is within the laws of science. No space warps or time warps or time machines. We'll leaves that to Hollywood and Star Trek.

"Let's begin by considering from how far away these beings would have to come. Mars and Venus are definitely out. All scientists and most UFO enthusiasts concede that neither could sustain life. That leaves stars which might have solar systems like ours. The star at the center of the system cannot be too big, it can't be too small and it can't be a double star. This leaves about four or five stars within 20 light years of earth that could have a planet anything like earth around them."

Brehme noted that a light year is the distance that light travels in one year, about 6 trillion miles. By contrast, the sun is less than 100 million miles from the earth.

Brehme continued, "Now let's build a spaceship to get there. Now according to the laws of matter, and it's futile to consider anything else, it is impossible to travel faster than the speed of light.

"They have to invent something else for the movies and television, because they're clearly not going to wait 50,000 years for the hero to get home.

"But using the most efficient motor known to science, we could theoretically approach the speed of light. Faster, you would not want to go, because you would turn into energy.

"We're going to power this spaceship with a photon-driven reaction motor. This means we're going to take matter and antimatter in equal quantities and mix them to produce pure light. This will power our craft at a speed just under the speed of light.

"Now suppose we wanted to explore the system within a distance of 32 light years. Let's consider the weight of this craft. We would need 66 tons of fuel just to get there. It would take 10.5 years to get there considering acceleration and deceleration.

"But funny things happen when you go the speed of light. All functions slow down, including metabolism. This

See Extraterrestrials, Page 2

This photograph of a UFO was taken in Charleston, S.C., in 1973 by a Winston-Salem man.

W-S Journal 2-16-76

Extraterrestrials Can't Man UFOs, Physicist Tells Groups

Continued From Page 1

means that time passes more slowly, and we can calculate just how slowly.

"A round trip of 16 light years would take 21 years aboard the spaceship, but 69 years would pass here on earth. In addition to the expense of time, there is the economics of producing enough energy to power a ship that could travel this far.

"To produce one pint of antimatter would take 12.5 billion kilowatt-hours of electricity. At 3 cents a kilowatt-hour, that would cost around $375 billion for a pint of antimatter. You would need more than 3,000 pints of antimatter to propel a space ship one light year.

"This is withthe spaceship of the future. If a conventional rocket is used, it is absolutely impossible. To travel four light years if your payload weighs one ton, it would take 52,000 years to get there. The fuel you would need would be 6 with 27,000 zeroes after it tons.

"What I'm saying is that even with the most sophisticated spaceship, you're talking about a 70- to 80-ton craft. Now a photon-powered motor produces light, if you'll remember. Lots of light.

"One that could travel 30 light years would be brighter than Halley's comet. It would be nearly as bright as the sun. Such a craft is not going to be seen by just a few people. Everybody is going to know that it's coming.

"It obviously is not going to be able to be very secretive either. But then why should it? If extraterrestrials had the technology to get here, they wouldn't need to sneak around.

"It would take a very aggressive race of beings to want to travel through space. Even if there is life within eight or ten light years, who is to say it would be creative enough or sufficiently developed technologically to come here.

"They could be like ants or honeybees. The end result of evolution on another planet would not necessarily be a creature as creative and aggressive as man.

"I don't say it's impossible. I just say that if you take the laws of science into consideration instead of what you see on television it's highly, highly unlikely. Even if they do come, we'll know about it."

Brehme does have an alternative to space travel though. He suggests that we set up a radio broadcasting station on Pluto, far enough away from the sun's radiation to avoid interference. He suggests that we broadcast something anyone, or anything, can understand. "Not the human voice, for sure," Brehme says. "I suggest Mozart."