

Space shuttle excites OU audience

By ED BAS

An ungainly bird is about to take flight that could just change your life. And if you think the space shuttle won't affect you personally, 300 space and engineering buffs at Oakland University might argue the point. That many gathered recently to hear a representative of the Rockwell Inter-

national Space Division spotlight the shuttle program—the only manned space venture NASA has planned for the rest of this century.

Speaker John Latin flew in from California at the request of the Oakland University chapter of the Society of Automotive Engineers (SAE). His topic was the returnable rocket-glider system that will make its first voyage into space in 1980.

"The change of emphasis in the space program," Latin said, "took place in the early 1970's. We put a man on the moon and now were beginning to take another look at Earth. Skylab was one of the main factors."

SKYLAB HOLDS the world record for life in outer space with manned missions for a combined total of over 100 days in space.

The shuttle, Latin said, will be the country's answer to how space trips can be made inexpensively, for one-hundredth of the cost of space flight in the middle of the last decade.

Rockwell is a major contractor for the shuttle, and also helped build the command and service modules for the Apollo moon lander, the Skylab program and the Apollo-Soyuz test project.

The space shuttle has been tested for free flight when released from its piggy-back mounting on a stripped and then refurbished 747 jet. Its first glide down to a 12-mile runway on the salt flats of California lasted just over five minutes. When the shuttle-orbiter goes into space, it will be on the back of a liquid-fuel rocket with two strap-on solid fuel boosters.

The add-on tanks are recoverable by parachute and the shuttle orbiter itself can be used again.

"We have a get-away special," Latin said, "that includes five cubic feet and 200 pounds for \$10,000. You can't beat it." However, the bargain rate is for instrument packages only, and doesn't include life support systems.

THE CARGO bay of the orbiter is large enough to hold, for example, five African elephants or one railroad box-car.

The shuttle lands more like a rock than a glider, according to Latin. Its last test flight with special air-drag equipment removed lasted only two minutes.

And it did it on a 15,000-foot runway like the one that will be used in the 1980s, not the wide open spaces of the salt flats.

So far, tests have gone without a hitch, despite the "dead stick" approach without an ounce of fuel. The fuel and engines it carries are to be used to get into orbit, but not to help it land.

"I had one person ask me what would happen if they missed the runway," Latin said. "I told him a lot of technical jargon about glide paths and timing. He asked me what would happen if they missed the runway."

"I told him about the four computers they have on board, three of which can out-vote a malfunctioning one and land the orbiter democratically." He asked me again what would happen if they miss the runway. I gave up and told him that was what they called a "congressional investigation."

Included in the shuttle's uses are:

- Focusing the sun's rays on a city during a blackout.
- Crop and farm field monitoring for better use of fertilizer, insecticide and irrigation.
- Warning crops threatened by frost.
- Energy production by collecting solar energy and beaming it earthward in the form of microwaves.
- Water pollution and siltation problems through monitoring from space.

MICHELLE TWEEDIE came to the discussion not because of any engineering drive but because she is inter-

ested in the shuttle "just out of curiosity and from an economics point of view."

Dave Jeshurun, president of the SAE chapter at OU, said he was impressed with the presentation. "It's one of the most significant engineering feats we'll see," Jeshurun said. "It's a new frontier we're seeing here."

Joanne Schultz and brother Dan saw the presentation from different viewpoints, he as a future engineer and she as an economics student. Joanne said it was a more detailed presentation than she'd expected.

"I'd like to get a ride in it," Dan said. "This could be the future for all of us. You know, his (Latin's) generation had the Sputnik, and the shuttle is for us."

"People frequently ask why we're spending so much on the space program," Latin said. "NASA comprises 0.8 per cent of the national budget. Defense spending is over 40 per cent. And not one dime of the NASA budget is spent in outer space. There are no cities there, yet. That money is spent here on Earth."

tadross & zahboute
Purveyors of Oriental Rugs since 1957.
Birmingham: 108 S. Woodward • 644-8200
Detroit Designer/Decorator Store: 136 Madison Avenue • 963-7400

• Two Beautiful Natural Wool Tahzibs
• Stunning, Geometrically Patterned Samarkand Rugs
• From Northwest China
• 10 x 13 Panel Design Bakhti
• Special Narrow Keligies of Varying Lengths

We have selected many exquisite one-of-a-kind rugs for this special pre-Christmas offering. You are invited to see and examine these unique, colorful rugs on view at our Birmingham store only. They include...

SPECIAL ONE-OF-A-KIND OFFERING

Oriental Rugs



The BRAMBLES GIFTS

Beautiful Dolls, Music Boxes, Nutcrackers and Smoking Men, Pewter, Crystal and Lace... So Much More!

Recipe for a splendid smelling house during holidays: Before guests arrive, place whole cloves in boiling water for awhile.

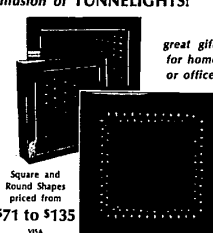
The BRAMBLES
located in the RACQUETIME Center
28400 W. Twelve Mile Rd. (Corner N.Western)
Southfield, MI 48034 355-0713

the argyle shop
has special
HOLIDAY HOURS
for your
SHOPPING CONVENIENCE
Monday thru Friday
9:30 to 9 p.m.
Saturday 9:30 to 6 p.m.
Sunday 12 to 5 p.m.
Gene Sims and Harry Solomon



The latest styles in the best of taste
6520 Telegraph Road at Maple Road
626-9810 • 11

come see the fascinating mirrored
ILLUSION OF TUNNELLIGHTS!



great gifts
for home
or office!

Square and Round Shapes
priced from
\$71 to \$135

VISA
MASTERCARD
OPEN MONDAY THRU SATURDAY 10 TO 8 • SUNDAY 1 TO 5

PLAZA SUITE
GIFTS • ANTIQUES • FINE ART OBJECTS
FRANKLIN SHOPPING PLAZA
NORTHWESTERN AT 12 MILE • SOUTHFIELD
PHONE 357-1121

A SPECIAL PLACE FOR A SPECIAL SEASON



om
ORCHARD MALL
Orchard Lake Rd. at Maple
West Bloomfield

DEC. 8-10 PILCO AUTO SHOW
DEC. 9 7 PM FREE PUPPET SHOW
DEC. 17 1 PM FREE PUPPET SHOW
DEC 5-20 U.S. POST OFFICE SUBSTATION
OPEN MON TO 5 PM DAILY EXCEPT SUNDAY

Travel bureau moves to new location

The Travel Bureau, Michigan department of commerce, is dispensing Michigan travel and tourist information from its new quarters on the fifth floor of the Law Building in Lansing. The Law Building is located in the Capitol Complex on the corner of Ottawa and Pine Streets.

Mailing address and phone numbers for the bureau are unchanged. In the Lansing area, persons seeking Michigan travel information can dial 373-1195 or 373-0670. From outstate Michigan, dial toll free, (800) 292-2820. Mail inquiries should be addressed to P.O. Box 30026, Lansing 48909.

Some of the services provided by the travel bureau include fall color reports, Michigan snow and road conditions (December-March), fishing reports, festivals, events, attractions and regional information.

good times, good food, good friends
come enjoy life with us . . .

FRANKLIN CLUB APARTMENTS
an adult community
28301 Franklin Road, Southfield, Michigan

Now accepting reservations
30 one bedroom
6 two bedroom apartments
in building three
for
February occupancy
please call Mrs. Neville at 353-2810 to
obtain information or arrange an interview.
from \$555 per month

WHEN YOU WANT MORE THAN A TOY



This Christmas, give gifts that will enrich and stimulate the mind and imagination.

GLOBES
MICROSCOPES • TELESCOPES
CHEMISTRY KITS
BIOLOGY KITS

Experiment Kits:
Mechanics
Weather
Optics
Electronics
Computers

Games For Kids And Adults:
Rummikub
Chess
Backgammon
Avalon Hill
Labyrinth
Mastermind
The Ungame
Brain Teasers
Puzzles

all for learning
Ph: 851-6770

om ORCHARD MALL
Orchard Lake Rd. at Maple
West Bloomfield

The Cheese King



would like to introduce his new concept in cheese merchandising

FROM FACTORY TO YOU

You are invited to come see and taste our wide variety of Danish and Domestic Cheeses, all from our own factories.

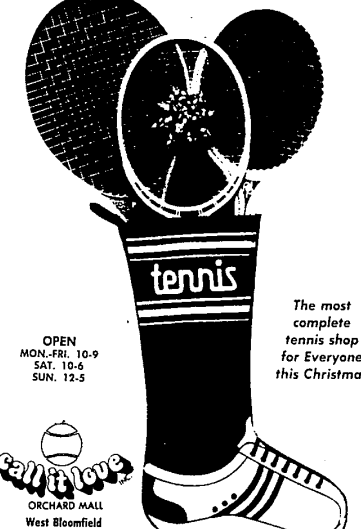
Open 10-6:30 Closed Sun.-Mon.
Special Holiday Hours in December

Visit us soon at 28833 Northwestern Hwy. (Just 1/2 blk. S. of Twelve Mile Rd. in Southfield) Or call us at 357-1295

We can also furnish you with an attractive and delicious arrangement of assorted cheeses for any event—parties, receptions, buffets. Ask about our gift packages for the holidays.

COMPLIMENTARY DANISH CHEESE SLICER
with your purchase!

Special Holiday Hours: Tues. thru Sat. 10-6:30



can't love

ORCHARD MALL
West Bloomfield
626-7400

OPEN
MON.-FRI. 10-9
SAT. 10-6
SUN. 12-5

The most complete tennis shop for Everyone this Christmas

Ski Cross Country

GET INTO THE GREAT OUTDOORS, & HAVE A BALL...

FOR THE GEAR YOU NEED, ACME'S GOT IT ALL!

Save 15%

Create your own Cross Country Ski Package — You Select the Skis, Boots, Bindings and Poles of Your Choice... And We'll Save You 15% on the Price!

Fischer Europa Step No-Wax Ski \$81.94
Fischer Super Step No-Wax Ski \$19.94
Normark 225 No-Wax Ski \$59.88

Normark 220 Waxable Ski \$59.88
Normark or Dacor Bindings \$6.88
Bamboo Poles From \$9.88
Fiberglass Poles From \$11.88
Tyrol Boots \$26.88
Many Other Boots up to \$59.88

We carry All Accessories for the Cross Country Skier: Gators, Waxers, Carapots, Carriers, Bell Patches, Etc.

ACME SPORTING GOODS

Livonia Mall • 11500 E. Livonia Rd. • 48150 • 461-1100
Royal Oak • 48063 • 381-1100
Macomb Mall • 48063 • 461-1100