

SUNY SIDE UP -- Sept. 23, 1981 - Guests: Dee, deZafra, Deysine, Kleinberg

This is the ^{WUSB} program, SUNY Side Up.

Hi, everybody, this is Al Oickle at the State University of New York at Stony Brook. Like any large, comprehensive university center, Stony Brook has three major missions: teaching, service and research. Today's program will focus on some of the research taking place on campus and conducted by Stony Brook faculty members.

There is a danger, when discussing scientific research, ^{of} ~~to~~ oversimplify. ^{but} But I'm going to run that risk now in attempting to summarize briefly what you will be hearing in the next half-hour.

In their own words, four Stony Brook scientists will tell us about some of their research projects. Dr. Roger Dee will recount a very unusual bone transplant in which a young woman's arm was restored to use with the aid of a new bone from a dead person.

Dr. Robert deZafra will talk about the new techniques ~~atmospheric conditions~~ ^{he} and his Stony Brook colleagues have developed to ~~that have led some to predict that "the sky is falling."~~

~~his Stony Brook colleagues have developed new techniques for~~ measure the conditions that led to ~~that~~ ^{controversial} the reports that "the sky is falling"...and I use that term in quotation marks.

From Dr. Maximo Deysine we will hear about his efforts to send the cure directly to the ailing part of the body---that is, to stop treating the entire body when only a small part is hurting.

And Dr. Israel Kleinberg will talk about his work that may one day lead to a huge reduction, if not elimination, in tooth decay.

Sound interesting?? You bet, it is. From here in, you will be hearing the voices of the scientists themselves, with only occasional interruptions ^{As} ~~se~~ I ~~will~~ pose questions. 1140

First, we'll hear from Dr. Roger Dee, who is chairman of the Department of Orthopedics at Stony Brook. 105

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He will ~~xxxx~~ describe the use of a bone from a deceased person, a cadaver, to repair a young patient's injured arm.

TAPE/DEE: Yes, the problem was in a young girl in her early 20s...
...because of my own interest in replacement of the...elbow :50

SKIP JAY and Dee "That's correct" (:06)

TAPE/DEE: And of course you need a kind of fulcrum to stabilize...
...at this stage in young patients. 2:00

SKIP JAY "You mean loosening..." (:03)

TAPE/DEE: Yes, the joint/technology was really made possible...
bonding
end with "...had used it (on one or two occasions successfully"
~~xxxxthebloodbankxadvancexxtoxxthebonebankxxatxxMiamixx~~ 1:25

AFO LIVE: Dr. Dee, and his young patient, were in luck. The bone bank at Miami maintains a catalogue, so to speak, of its inventory. And the bone bank had a right humerus ^{ER45} of this patient's general size.

* TAPE/DEE: And they had it on the airplane within a couple days...
...gradually replaced by the body's own natural tissues... :45

* SKIP JAY; But it's not like the upper bone (:05)

TAPE/DEE: It's a relatively new technique...
...can be incorporated in this way." :50

SKIP JAY: How did you attach ~~(505)~~ through DEE: in some high stress situations. (1:15)

* TAPE/DEE: ~~We depended upon the intimate contact xxxxx~~
TAPE/DEE: I'm happy to ~~report~~ say that in her case... :06
Do you see any signs of direct

* AFO LIVE: ~~Is there any danger of~~ tissue rejection, Dr. Dee?

TAPE/DEE: Well, ^{actually} absolutely none...
...then failure is certain. :40

AFO LIVE: And what do you think the prognosis is?

TAPE/DEE: Well, this patient now at six months...
...absolutely identical with the rest of her upper arm bone. :52

AFO LIVE: ~~the final question for~~ Dr. Dee, Is there a danger that a patient will feel odd or strange with a cadaver bone?

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TAPE/DEE: ~~Absolutely not~~ We were concerned about the...

...might make it unacceptable. :23

AFO LIVE: ~~And~~ One final question ^{was asked} Dr. Dee: What do you see

in the future for this procedure? In his answer he discussed ~~the~~ procedures in Dallas, Texas, and the Soviet Union.

TAPE/DEE: I know that in Dallas...

...you automatically belong to the state (laughter OK):45 (10:45)

AFO LIVE: Robert deZafra is an associate professor of physics at the State University of New York at Stony Brook. Here he recounts the relatively recent controversy over the possible depletion of ozone in the upper atmosphere, from the supersonic transports and later on the aerosol spray cans.

TAPE/deZAFRA: I think the answer to that problem is far from... 1:00
...in the next five years.

SKIP JAY's question (Can you give me some idea of what...) go to

TAPE/deZAFRA: The risk came about in terms of the spray can...

...which generate these. :45

SKIP DE ZAFRA FROM "Slowly" through.... "diatomic variety" (1:40)

TAPE/De ZADRA: The danger in that in turn comes from the fact...

...from the danger of ultraviolet radiation. :26

SKIP to next deZ speech: "The predictions had run to....:

...rather than a reality." :40

AFO LIVE: Dr. deZafra emphasizes that it is important nonetheless to be exceedingly cautious when dealing with an irreversible process, which this is. Here's how he describes what he and his Stony Brook colleagues are doing in their research:

TAPE/de ZAFRA: We've attacked it not from the chemistry...

...the basis of our experimentation. 2:00

SKIP JAY: How do you do it?

TAPE/ deZAFRA: We use equipment that was originally...

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...and alot of other species present in the stratosphere.:44

SKIP JAY'S QUESTION and go to

TAPE deZAFRA: I've been interested ~~in~~^{as} a physicist...

to look at interstellar molecules. :20

SKIP JAY'S COMMENT and go to

TAPE deZAFRA: It (turns out) interestingly enough to be...

last three years solving... :15

SKIP Jay'S COMMENT and go to

TAPE deZAFRA: ~~We've got the~~ The equipment is working well...

...for the last 12 months or more. :10

skip next 1:00 and go to

LIVE AFO: What results has^{is} the Stony Brook team achieved in measuring ozone loss in the upper atmosphere? Dr. deZafra explains:

TAPE deZAFRA: They are tending to show...

...remain to be seen in the larger picture yet. :54

skip Jay's question and ^{comments} deZafra's for about 2 minutes to:

AFO LIVE: Dr. deZafra was pressed to tell us whether ~~is~~ the Stony Brook research is cause for optimism or pessimism.

He was reluctant to make that kind of assessment, but, as you will see, he ^{seemed to end} ~~went~~ up leaning a bit towards optimism.

TAPE deZAFRA: "Well, I and my colleagues are not chemists...

...superficially that may be some cause for optimism." :36

AFO LIVE: And now we will be going from outer space to the

inner human being with Dr. Maximo Deysine, ² professor of surgery at the State University of New York at Stony Brook. Dr. Deysine's research has been in antibiotics,

8:20
19:05

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and his concerns are that the system ^{used to deliver} ~~by which these~~ medicine ^{to help cure disease---to kill bacteria---} has ^{not} changed in the 50 years since the ~~the~~ discovery ^{of} in England. ~~the~~

Antibiotics

CUE/DEYSINE: ...since Fleming invented them.

DEYSINE: We soak the patient completely...

...they are a toxic

:41

SKIP JAY'S QUESTION (What can be done about this?)

TAPE/DEYSINE: I was appalled...

...which should lead to something more feasible...

3:25

~~SKIP JAY'S QUESTION~~
AFO LIVE: Dr. Deysine went on to explain that ~~the next steps in~~ ~~the research will require more funding.~~ ^{Ultimately,} ~~the next steps in the use of this technique~~ ~~will be~~ the technique may be effective for humans.

(CUE: Jay: And that's the way you would see it being used...

TAPE DEYSINE: If we are lucky, the patient will be able to buy...

...picked up by the white blood cells and taken to.... :26

SKIP TO (cue: Deysine: same kind of experimentation). ~~you know~~

^{You know,}
TAPE DEYSINE: I would like to try the same system, for instance

...if you start thinking about it, then ~~it's~~ it's possible. :30

5:02
24:07

AFO LIVE: Dr. Israel Kleinberg is a professor in the School of Dental Medicine at the State University of New York at Stony Brook. His work is known internationally. A few years ago he was credited with the discovery of a previously unidentified substance in the human saliva.

He named it sialin. (CUE: K: protection against tooth decay)

~~TAPE DEYSINE:~~ ^{Kleinberg} It is a compound that we refer to as...

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...in contrast sialin a peptide of only four. :21

~~AFD LIVE: Dr. Kleinberg~~
~~SKIP TO (cue JAY: How was it found?)~~

TAPE/KLEINBERG: Well, ~~this goes back to the well known...~~ :44

...we expect it to be effective against tooth decay.

SKIP JAY'S QUESTION and go to

TAPE / ~~KLEINBERG~~ It's a type of compound...

...then they are also effective. :44

AFO LIVE: Sialin is ^{present} already in everyone's saliva, of course. And so, Dr. Kleinberg was asked, how would he propose using it to combat tooth decay?

TAPE/KLEINBERG: Well, the real problem is that some people...

...each of these is now being explored. :55

SKIP JAY'S QUESTION: How far along

TAPE/KLEINBERG: Well, ^{several} years ago we entered into...

...all of this looks ^{very} promising. :30

SKIP JAY'S QUESTION:

TAPE/KLEINBERG: I think the ^{radication} might not be possible...

...tooth decay will become a minor disease. :42

AFO/LIVE: ~~Later,~~ ^{has} Dr. Kleinberg noted that 95 percent of the American dental practice today is devoted to tooth decay, so you can understand the potential significance of his research. 4:00

Well, I hope you have enjoyed hearing from these research scientists at the State University of New York at Stony Brook. These ~~four~~ ^{of faculty members} are among the hundreds who work hard at carrying out the University's missions in teaching, service and research. I'll be back next week with more from here at Stony Brook. I'm Al Oickle. So long, everybody.