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CONTACT: Jessica Stark  
PHONE: 713-348-6777  
E-MAIL: [stark@rice.edu](mailto:stark@rice.edu)

**Rice University experts can discuss Thursday's FCC decision regarding use of 'white space' television spectrum**

*FCC rules govern how Rice, others set up 'White-Fi' networks*

Two Rice University wireless communications experts are available to comment on the Federal Communications Commission's decision this Thursday regarding a proposed rule that would free up so-called "white space," portions of the radio spectrum that have previously been set aside for television broadcasts.

Rice professors Edward Knightly and Lin Zhong are likely to be among the first in the nation to put the FCC's new rules to the test, thanks to a recent \$1.8 million federal grant to establish a white-space test-bed network in East Houston. The five-year project calls for Rice and Houston nonprofit Technology For All (TFA) to add white-space technology to a wide spectrum Wi-Fi network they jointly operate in Houston's working-class East End neighborhood.

"The FCC's decision Thursday will have a significant impact on our project," said Knightly, the principal investigator on the new grant from the National Science Foundation. "The exact rules that the commission adopts will determine the ease of implementation, the coverage range and the capacity of our deployment of 'White-Fi' in our neighborhood network."

The TFA network delivers free broadband Internet to about 4,000 users in a two-square-mile service area. Launched in 2004, TFA Wireless uses unlicensed Wi-Fi frequencies ranging from 900 megahertz (MHz) to 5 gigahertz. The new project calls for adding frequencies between 500 MHz and 700 MHz.

Knightly and Zhong, both members of Rice's Department of Electrical and Computer Engineering, will develop and test customized networking gear that can broadcast on White-Fi frequencies as well as customized smart phones and laptops that can receive the signals. The FCC rules are expected to strictly prohibit White-Fi signals from interfering with television broadcasts in the licensed portion of the 500 MHz to 700 MHz spectrum.

"It's going to be up to us to make certain a frequency is free and clear to use before we send or receive signals," Knightly said. "The rules adopted Thursday will spell out what the FCC expects of us in this regard. How we configure our network will be determined, at least in part, from these rules."

Once implemented, the white-space component of TFA Wireless will allow Rice's team to study how the combination of White-Fi and Wi-Fi can help users extend battery life and get improved reception. They'll also explore the potential energy savings from powering down Wi-Fi nodes and covering large portions of the network with a small number of White-Fi transmitters during off-peak hours.

To schedule an interview with Knightly or Zhong, contact Jessica Stark, assistant director of media relations, at 713-348-6777 or [stark@rice.edu](mailto:stark@rice.edu).

