

# JENTSCHKE LECTURE.

DESY Lecture in memory of Willibald Jentschke

## DESY and Life's Vital Bonding Machinery

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**DESY Auditorium**

**Notkestraße 85 | 22607 Hamburg | Germany**

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**16:30 -17:00 h: PhD Award of the Association of the Friends and Sponsors of DESY (VFFD)**

**17:00 h: Jentschke Lecture**

**DESY and Life's Vital Bonding Machinery**

Over two decades ribosomes, the universal cellular machines, were investigated at atomic resolution at several synchrotron radiation facilities, extending the initial studies performed, against all odds, at DESY.

These studies yielded spectacular insights into protein biosynthesis and its inhibition by antibiotics that were shown to target the ribosomal functional sites. Furthermore, attempts at improving the potency of the currently useful antibiotics and at designing novel therapeutics for combating antibiotics resistance, are in progress. Importantly, as antibiotics resistance becomes currently a major medical problem and as it was found that some of the many mechanisms for acquiring antibiotic resistance are species specific, we recently determined the first high resolution structures of a ribosome from genuine multi-resistant pathogen in complexes with several antibiotics. Interestingly, all ribosomes possess spectacular architecture, accompanied by matching inherent mobility, that allow for smooth performance as polymerases that translate the genetic code into proteins, and as the site for peptide bond formation is located within the fully conserved ribosome core, irrespective of environmental conditions, this core may be a remnant of a prebiotic catalytic RNA entity that still functions within the contemporary ribosomes.

**More Information: <http://www.desy.de/jentschke>**

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<http://vffd.desy.de>

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