



The Royal Academy  
of Engineering



Lecture Series in Mobile Telecommunications and Networks

## Technological Steps to Future Mobile Communications Networks

13 September 2007

A communications revolution has delivered global and flexible access to information, leading to major benefits to society. The pioneering contributions of engineers and researchers have been at the heart of this development, in particular in the field of mobile communications and networking technologies, including Wireless Local Area Networks and mobile phones. The first landmark of true mobile telephony was the GSM network, followed by a range of broadband and digital cellular technologies. To recognise the innovations and technical significance made by engineers, The Royal Academy of Engineering, with the generous support of VODAFONE, is running the second year of an annual lecture series in Mobile Telecommunications & Networks.

The Academy and VODAFONE are now proud to welcome their sixth speaker in the series; Professor Gerhard Fettweis, Head of the Vodafone Chair Mobile Communication Systems, TU Dresden.



Speaker: Professor Gerhard  
Fettweis

*Twenty years ago we rushed to the regular phone when we heard it ringing. Today we are connected by cellular phones anywhere and anytime at our own convenience and under our control. Twenty years from now we will have broadband (internet) access anytime, for any person, as well as any device. Achieving this requires another very large innovative step for the technology to be developed.*

*Professor Fettweis will present a basic set of requirements and sketch the mathematical tools that will be crucial for the future of mobile communications. The talk will also provide an explanation as to why we as users need more sophisticated wireless communications than are available today.*



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Professor Gerhard Fettweis earned his Dipl-Ing ('86) and PhD ('90) degrees from Aachen University of Technology (RWTH) in Germany. From 1990 to 1991 he was a Visiting Scientist at the IBM Almaden Research Center in San Jose, CA, working on signal processing for disk drives. From 1991 to 1994 he was with TCSI Inc., Berkeley, CA, responsible for signal processor developments. Since September 1994 he holds the Vodafone Chair at Technische Universität Dresden, Germany. He co-founded Systemonic as CTO, a startup acquired by Philips Semiconductors in 2002. Since 2000 he has co-founded Radioplan, Signalion, In-Circuit, and Dresden Silicon. Gerhard Fettweis has been an elected member of the IEEE Solid State Circuits Society's Board (Administrative Committee) since 1999, and he was associate editor for IEEE Transactions on Circuits and Systems II and IEEE Journal on Selected Areas in Communications wireless series. Furthermore, he serves on numerous company supervisory boards and on industrial as well as research institutes' advisory committees.

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**Thursday, 13 September 2007**

4.00pm for 4.30pm

**Venue**

The Royal Academy of Engineering, 29 Great Peter Street, London SW1P 3LW

**Programme:**

- |                |                           |
|----------------|---------------------------|
| <b>4.00 pm</b> | Registration              |
| <b>4.30 pm</b> | Lecture                   |
| <b>5.30 pm</b> | Question & Answer Session |
| <b>6.00 pm</b> | Drinks reception          |
| <b>7.00 pm</b> | Close                     |

**Chairman**

Professor Mike Walker FREng

**Lecture Series Steering Committee**

Jacqueline Cox, The Royal Academy of Engineering

Professor John Gardiner FREng, University of Bradford

Professor Lajos Hanzo FREng, University of Southampton

Professor Joseph McGeehan CBE FREng, University of Bristol

Professor John Midwinter OBE FREng FRS, University College London

Professor Mike Walker FREng, Vodafone Group



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I wish to attend the Seminar and Reception (there is no charge)

The Academy is keen to receive feedback on the value of its activities.

Please tick this box if you do not wish us to contact you after the event

for feedback. Please also ensure that we have your correct email address.

Title: \_\_\_\_\_ First Name: \_\_\_\_\_

Surname: \_\_\_\_\_ Honours: \_\_\_\_\_

Position: \_\_\_\_\_

Organisation: \_\_\_\_\_

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Postcode: \_\_\_\_\_ Telephone: \_\_\_\_\_

#### Guest:

Title: \_\_\_\_\_ First Name: \_\_\_\_\_

Surname: \_\_\_\_\_ Honours: \_\_\_\_\_

Position: \_\_\_\_\_

Organisation: \_\_\_\_\_

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Please return this form to: Jacqueline Cox, Communications Department at  
jacqueline.cox@raeng.org.uk by tel 020 7227 0531 or fax to 020 7233 0054 or by post to:  
Communications Department  
The Royal Academy of Engineering  
29 Great Peter Street  
London SW1P 3LW

