



Root intrusion into a sewer in a depth of 7 m (23 ft)

Where trees grow in the vicinity of sewers, drains and service pipes conflicts can occur. Contrary to popular belief roots can penetrate non-defective pipe joints, root systems can extend beyond the tree crown diameter and go deeper than is commonly suggested in standards, literature and doctrine.

This symposium at IKT - Institute for Underground Infrastructure, Germany, will bring together network operators, researchers, arboriculturalists and technical specialists to debate the problems and identify solutions.

The working language for the symposium will be English.

**Who should attend:**

- Pipeline network operators
- Pipe manufacturers
- Pipe maintenance/rehabilitation managers
- Arboriculturalists
- Urban planners
- Researchers

**Benefits:**

Improved understanding of causes and the potential solutions to your tree-pipeline problems. Networking with other practitioners who might assist you in addressing your tree-pipeline problems.

# Trees and Underground Pipes 2007 – Busting the Myths

**Wednesday, 23. May 2007**

● **Session 1: Trees and Pipes – an Introduction**  
(Importance of Trees and Underground Pipelines and How they interact)

09:30	<b>Welcome</b> Bert Bosseler, IKT-Research Director, Germany
09:50	<b>Trees and Pipes – an Introduction</b> Bert Bosseler, IKT-Research Director, Germany
10:10	<b>Significance of Vegetation and Infrastructure for Europe</b> N.N.
10:30	<b>Discussion</b>
10:45	<b>Coffee break and viewing of demonstrations and exhibits</b>

● **Session 2: Basics of Root Growth - Busting the Myths**  
Chairman: Örjan Stål, SLU, Sweden

11:15	<b>Misunderstanding of Root Growth</b> Thomas Stützel, Markus Streckenbach, RUB, Germany
11:35	<b>Investigations on the Interactions Between Roots, Pipes and the Borderlines Between Different Soil-Types</b> Heiko Schmiedener, IKT, Germany
11:55	<b>Busting the Myths</b> Klaus Schröder, City of Osnabrück, Germany
12:15	<b>Discussion</b>
12:30	<b>Lunch and viewing of demonstrations and exhibits</b>

● **Session 3: Understanding How and Why Trees Cause Damage**  
Chairmen: Franz-Peter Heidenreich, DBU, Germany, Jitze Kopinge, Netherlands

13:30	<b>Overview of the Problems affecting Sewer Systems</b> Hans Bäckman, Svensk Vatten, Sweden
13:50	<b>Root Related Aspects of Tree Stability</b> N.N.
14:10	<b>Can Trees affect Soil Mechanics - focussed on Trees Water Consumption?</b> Eero Nikinmaa, University of Helsinki, Finland
14:30	<b>Discussion</b>
14:45	<b>Coffee break and viewing of demonstrations and exhibits</b>

● **Session 4: Penetration of Pipe Joints**

Chairman: Iain Naismith, WRc, UK

15:15	<b>IKT/RUB/SLU-Research on Pipe Joints</b> Christoph Bennerscheidt, IKT, Germany, Örjan Stål, SLU, Sweden
15:35	<b>Root Resistance of Unplasticised PVC-Pipes</b> Stewart Burn, CSIRO, Australia
15:55	<b>Weakness in Current Joint Design and Options for Future Development</b> Don Ridgers, Thames Water, UK
16:15	<b>Discussion</b>
16:30	<b>Finish and further opportunities viewing of demonstrations and exhibits</b>
19:00	<b>Evening-Meeting</b>

12:05	<b>What Next?</b> Bert Bosseler, IKT, Germany
12:15	<b>Final discussion</b>
12:45	<b>Lunch and viewing of demonstrations and exhibits</b>

● **Session 7: Excursion**

13:45	<b>Excursion: Biological tests at Ruhr-Universität Bochum, Botanical Gardens</b>
17:00	<b>End</b>

**Thursday, 24. May 2007**

● **Session 5: Planning for Trees and Pipelines**

Chairman: Don Ridgers, Thames Water, UK

09:00	<b>Making Room for Roots: Satisfying Contradictory Demands</b> Klaus Schröder, Osnabrück, Germany
09:20	<b>Problems of Greening in Urban Areas</b> Michèle Pezzagno, University Brescia, Italy
09:40	<b>Mapping Trees and Sewers to Target Management and Planning</b> Jeff Farrow, Thames Water, UK, Örjan Stål, SLU, Sweden
10:00	<b>Excavate or No-Dig: The Pipeline-Rehabilitation Options</b> Christoph Bennerscheidt, IKT, Germany
10:20	<b>Remove or Keep and Protect Trees during Construction</b> Dirk Dujesiefken, Institut für Baumpflege, Germany
10:40	<b>Discussion</b>
10:55	<b>Coffee break and viewing of demonstrations and exhibits</b>

● **Session 6:**

**What have we learned, what do we still not understand and what do we need to do about it**

Chairman: Bert Bosseler, IKT, Germany

11:25	<b>Session 2: Basics of Root Growth – Busting the Myths</b> Chairman Session 2
11:35	<b>Session 3: Understanding How and Why Trees Cause Damage</b> Chairman Session 3
11:45	<b>Session 4: Penetration of Pipe Joints</b> Chairman Session 4
11:55	<b>Session 5: Planning for Trees and Pipelines</b> Chairman Session 5



### Accompanying events

- 23rd till 24th May: Exhibition
- 23rd May: Evening reception
- 22nd May: Project Advisory Group Meeting „Tree roots and pipe bedding materials“ supporting IKT-Project II – Interaction between tree roots and pipe bedding materials
- 25th May: DWA Working Group Meeting (ES 3.6) „Trees, sewers and service pipes“, revising german standard ATV H 162

### IKT Tree Root Projects

- IKT-Project I: Bochum (15 km from IKT)  
Botanical garden, interaction between roots, pipes and pipe bedding materials (small scale tests)
- IKT-Project II: Osnabrück (110 km from IKT)  
Interaction between tree roots and pipe bedding materials, effects of regeneration
- IKT-Project III: Garzweiler (100 km from IKT)  
Brown coal area with recently deserted towns: Old trees and new pipes. Effects of regeneration etc.
- IKT-Project IV:  
Root growth and rehabilitation systems



Roots growing along the surface of a plastic foil

### Symposium

In 1998 IKT began research on root penetration into sewers and is currently working on four projects to reduce the conflict between trees and underground infrastructure (details overleaf). International researchers, arboriculturalists and network-operators are working on strategies to resolve the interactions between technical infrastructure and vegetation. In most cases first we have to bust myths like: Roots grow only into defected joint, roots grow only underneath their crowns etc.

The International Symposium „Trees and Underground Pipes“ will serve as a perfect venue to exchange the latest results of interdisciplinary research, to discuss technical and organisational solutions and to create cooperation for further research.

### Accompanying Exhibition

The conference will be accompanied by a technical exhibition for suppliers of pipes, root-protection-systems, substrates etc. Details are available from the Symposium Manager.

### About IKT

IKT is a neutral, independent, non-profit research, testing and consulting institute. It focuses on construction and maintenance issues concerning underground pipes and networks for gas, water and waste-water. As an independent and reliable partner for utilities, sewer system operators, water associations and industry IKT offers highly specialized and cutting edge research and testing technologies in a practical and application-oriented manner.

### Programme Committee

- Bosseler, Bert (IKT, D)
- Bennerscheidt, Christoph (IKT, D)
- Naismith, Iain (WRc, UK)
- Ridgers, Don (Thames Water, UK)
- Schröder, Klaus (City of Osnabrück, D)
- Stål, Örjan (University Ålnarp, S)
- Streckenbach, Markus (Ruhr-Universität Bochum, D)
- Stützel, Thomas (Ruhr-Universität Bochum, D)

### Registration

Homepage: [www.ikt.de/taup2007](http://www.ikt.de/taup2007)  
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### Contact

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### Further information

IKT: [www.ikt.de/taup2007](http://www.ikt.de/taup2007)  
COST C15: [www.lt.slu.se](http://www.lt.slu.se)



Locations of IKT tree root projects