Bio-Mimicry and the Future Urban Forest

James Urban, FASLA, ISA
Urban Tree + Soils
Urbantree@toad.net
1986 lecture on the Future Urban Forest, a proposal for structural soil, based on seeing tree roots growing in rock sites. First installations were in 1996
Toronto - September 2004
What I found and what I missed!
The ‘Super Man’ of trees does not exist, except maybe Ailanthus.

In the Future we need to open our minds before we open our wallets!
Chrome plated trees and
topiary orcas

This is not what we mean
by bio-mimicry
Study trees in extreme environments

Forest in thin soil mesa tops
Beech in rock crack
Red Rock KY

100 year old +/- Spruce
Cooper landing,
Alaska
Forest on the talus of the Niagara escarpment

Beech reclaiming a road cut
Greenville SC
Study successful trees in extreme urban environments
Be honest about nature: for example monoculture / diversity

Spruce monoculture, Alaska east all the way to Siberia
Flat root plate or not?

Stilted tree sprouting on old stump
Stilted trees in urban settings
Roots/ utility conflict zone

Conflict free zone

Space - the next frontier!
In design - 1200 cubic foot vertical tree pit
Miami, FL The ultimate stilted tree
Forest patch as an urban landscape tree form
Landscapes that self regenerate and allow natural deaths
They may already exist?
We will learn how to design truly sustainable landscapes and stop giving awards to landscapes that only look sustainable.
We will have 20 new urban tree genus with a host of new species and cultivars.

- Fagus
- Carpinus
- *Quercus* (Under explored)
- Carya
- Liriodendron
- Gymnocladus
- Ailanthus
- *Ulmus* (Asian)
- Ginkgo (Broad spreading)
- Betula (Single stem)

More genetic work on trees with emphasis on urban stress and soil issues.
Work strictly on aesthetics aspects of trees will be considered as un-sustainable.

We will stop being afraid of non native trees and genetically modified trees!
Plant genetic modification will put the root tip genes of the Ailanthus or Ficus or Pyrus into the root stock of a beech or a cherry.

Genus like Ulmus will be breed to reduce many of its diseases.

We will create new genus
Almost all trees will be planted bare root!
Including very large trees.
We will return back to the future
We will **stop** using screened soil and adding sand to our soil
FINALLY: Designers will know and understand how plants grow and die and soils function!
Waterfront Toronto – Sugar Beach
August 2013 Planted 2010

Silva Cells  A dream in 2003 a reality today
Lincoln Center North Plaza 2013 – Planted in 2008
New **MS Word Specifications** and **dwg Details** for:

**Planting**

**Soil**

**Irrigation**

**Tree preservation**

---

**Urban Tree Foundation**

700 East Murray

Visalia, CA 93292

559.713.0631

Download

[www.urbanmtree.org](http://www.urbanmtree.org)
Bio-Mimicry and the Future Urban Forest

James Urban, FASLA, ISA
Urban Tree + Soils
Urbantree@toad.net

Canadian Urban Forest Conference

2009 ASLA Honor Award

Up by Roots
Healthy Soils and Trees in the Built Environment

James Urban