Ernst L. Leiss

Security

HPC

Other Research Interests

June 2019

Security related interests

Sandboxing

> **Protecting environments**
>
> **Applications: Grid/cloud computing**
>
> **Viruses and worms**

Group authorization

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Security related interests

Digital watermarking

> **Integrity of digital objects**
>
> **MPEG-based for video**
>
> **Audio**
>
> **Techniques for verification and adjudication**

Parametrizing biometrics

Security related interests

Statistical database security

Inference control: Increasingly more important
related to privacy and legality

Randomizing

works well for averages
selector functions?

Other interests:

Access control
Authorization systems
E-voting
Privacy

HPC

Input/output management

Compiler-driven, rather than OS-centric

Compilers know much more about the
program than the OS will ever know

Can reuse techniques from vectorization
and parallelization (dependence analysis)

Memory management

Other research interests

Formal language theory,

primarily language equations

Towers of Hanoi

on graphs, parallel moves, worst graphs

Transitioning from algorithms to software

Societal aspects of computing, including

privacy,

computer crime,

surveillance (legal and illegal)

Six books

Nine book chapters

About 180 refereed papers
        (about half together with students)

17 Ph. D.s graduated

Over 100 M. S. Theses supervised

Faculty member at UH since 1979