

# *Calibrating Achievable Design*



## Overview

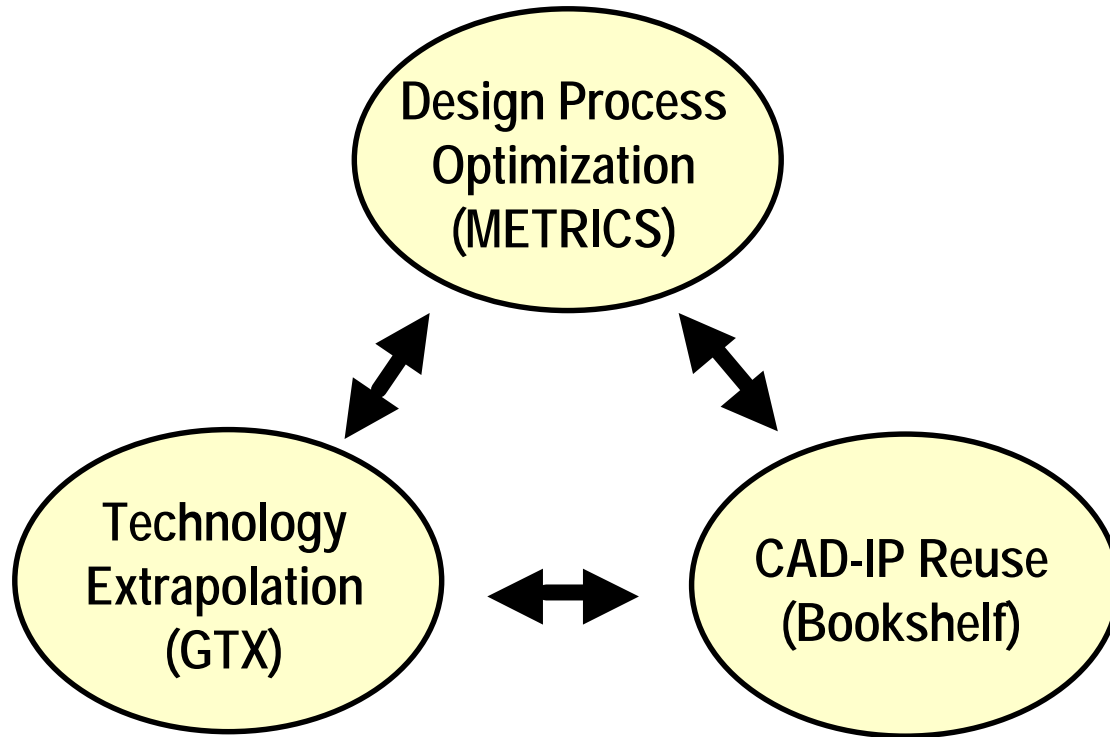




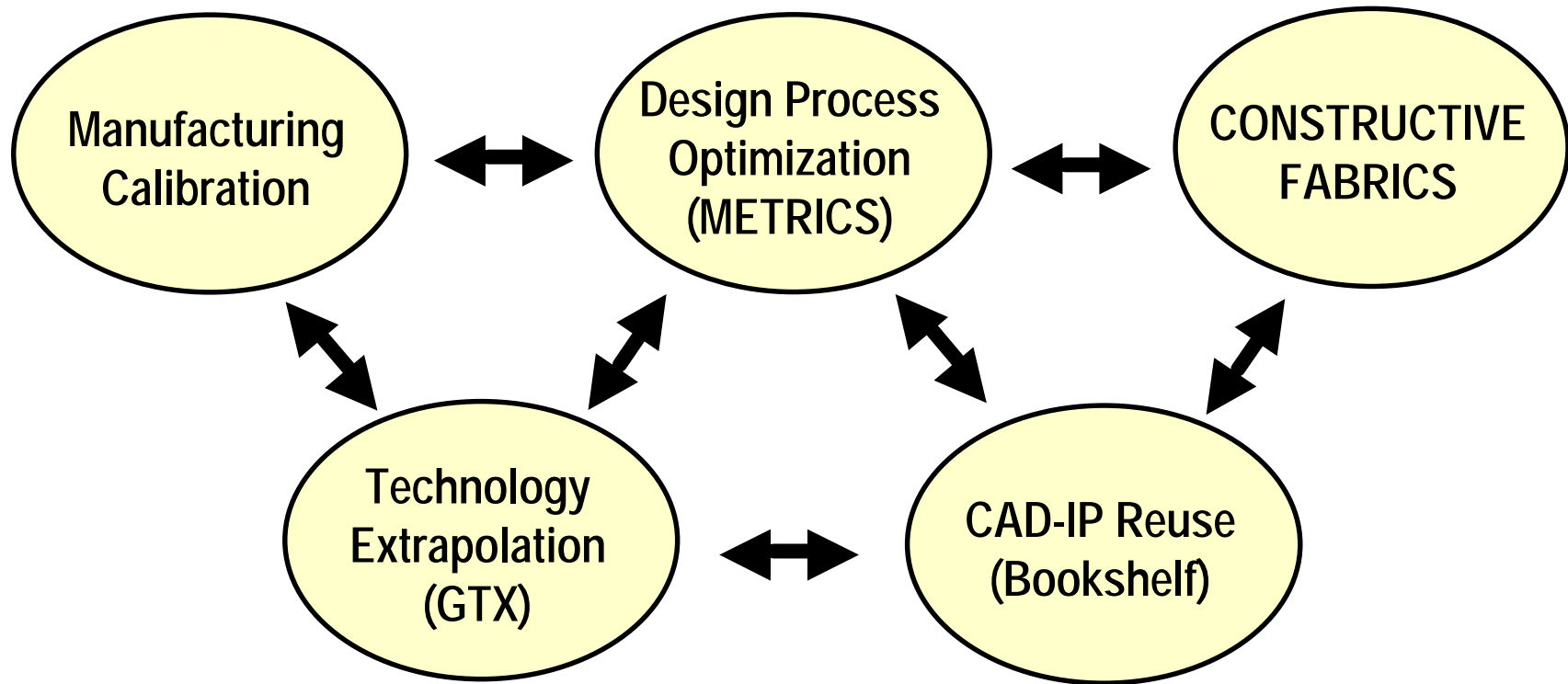
# *Composition*

- ◆ Wayne Dai
- ◆ Chen-Ming Hu
- ◆ Andrew Kahng
- ◆ Wojciech Maly
- ◆ Larry Pileggi
- ◆ Herman Schmit
- ◆ Andrzej Strojwas
- ◆ + lubricants

# Structure



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# *Deltas/Directions - Technology Extrapolation*



## ◆ Deltas

- ▲ cost/yield
- ▲ SOI device models
- ▲ RLC interconnect modeling, optimizations
- ▲ GENESYS, RIPE source codes

## ◆ Directions

- ▲ variability
- ▲ clock
- ▲ packaging tradeoffs
- ▲ DRAM-logic implementation tradeoffs
- ▲ device modeling
- ▲ vertical benchmarks



## *Deltas/Directions - CAD-IP Reuse*

### ◆ Deltas

- ▲ open-source release: UCLA PD Tools (34 pkgs, 110K lines C++)
  - ▼ FMPart, MLPart, CAPO standard-cell placer
  - ▼ support: LEF/DEF parser, database, ...
- ▲ open-source release: UCLA/Ultima bounded-skew clock routing
- ▲ MIT license

### ◆ Directions

- ▲ open-source is the bar for academic reporting, communication
- ▲ Constructive Fabrics: GSRC support « open in the Bookshelf
- ▲ foundation/backplane and interoperability
  - ▼ vertical benchmarks (data/evaluation, flow research)
  - ▼ data model
- ▲ goading, cajoling, promoting ® culture change
  - ▼ OpenEDA.org, Toolwire, ..... ?



# *Deltas/Directions - METRICS*

## ◆ Deltas

- ▲ some industry projects launched
  - ▼ in EDA
  - ▼ dialogue with system houses (spec METRICS system requirements)
  - ▼ new strategy: access to, analysis of regression suites for proofs of value (cuts through the chicken-egg problem)
- ▲ definite increase in industry level of awareness
  - ▼ ISQED, Collett-Numetrics, ... activity, similar value propositions
  - ▼ well-subscribed BOF meeting at DAC

## ◆ Directions

- ▲ slow but steady

# *Session Agenda*

## ◆ Technology extrapolation

- ▲ new framework, studies Dirk Stroobandt (20 min)
- ▲ yield modeling P.K. Nag (20 min)
- ▲ discussion
  - ▼ missing/new links, areas

## ◆ CAD-IP reuse

- ▲ new releases Igor Markov (20 min)
- ▲ discussion
  - ▼ prospective contributions
  - ▼ data model and interoperability, scalability

## ◆ Metrics

- ▲ discussion
  - ▼ missing/new components and considerations
  - ▼ standardization