Stone Mastic Asphalt

Course feedback

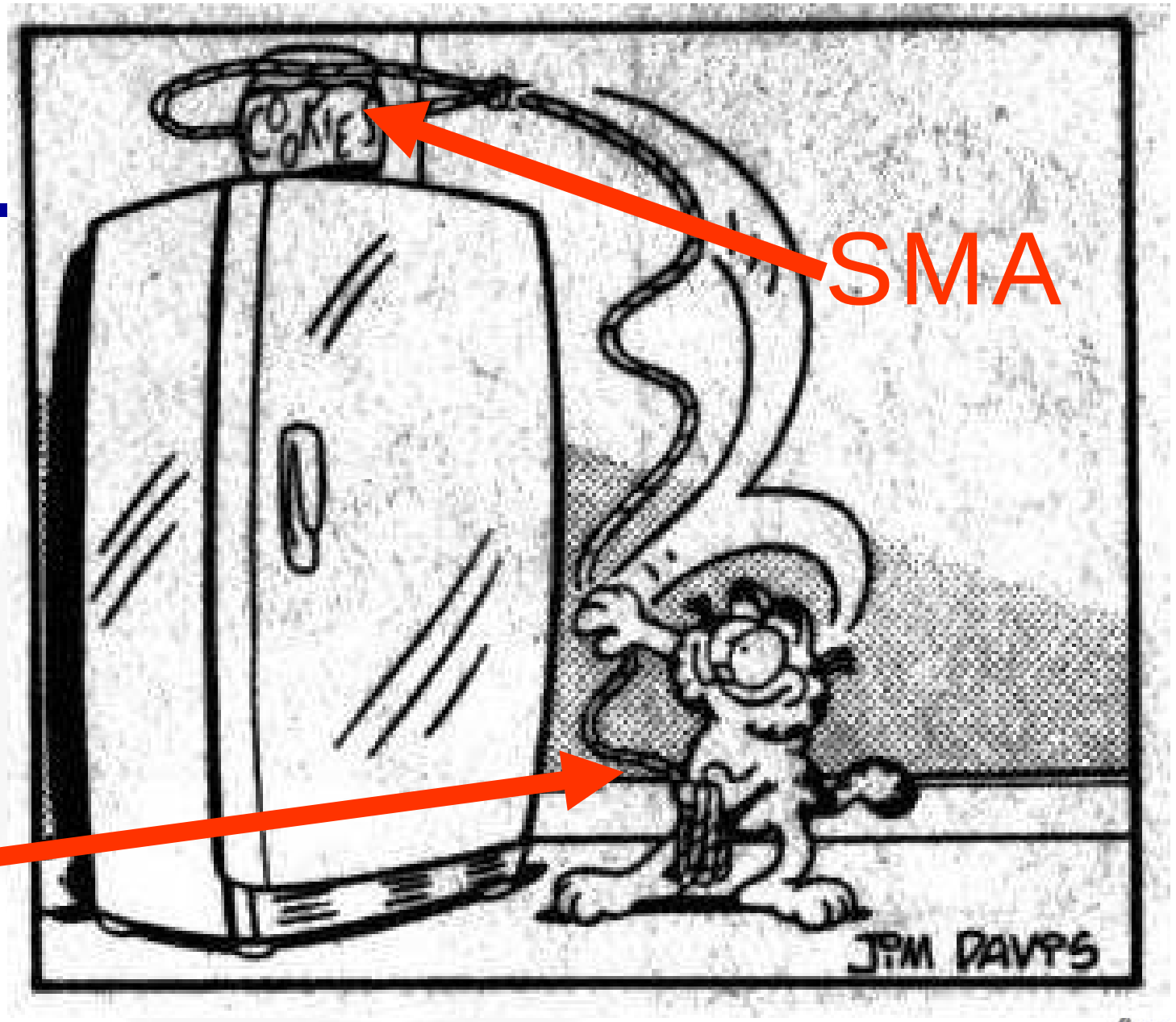
Specification update

Rob Vos
Martin van de Ven
Dennis Rossmann

Discussion

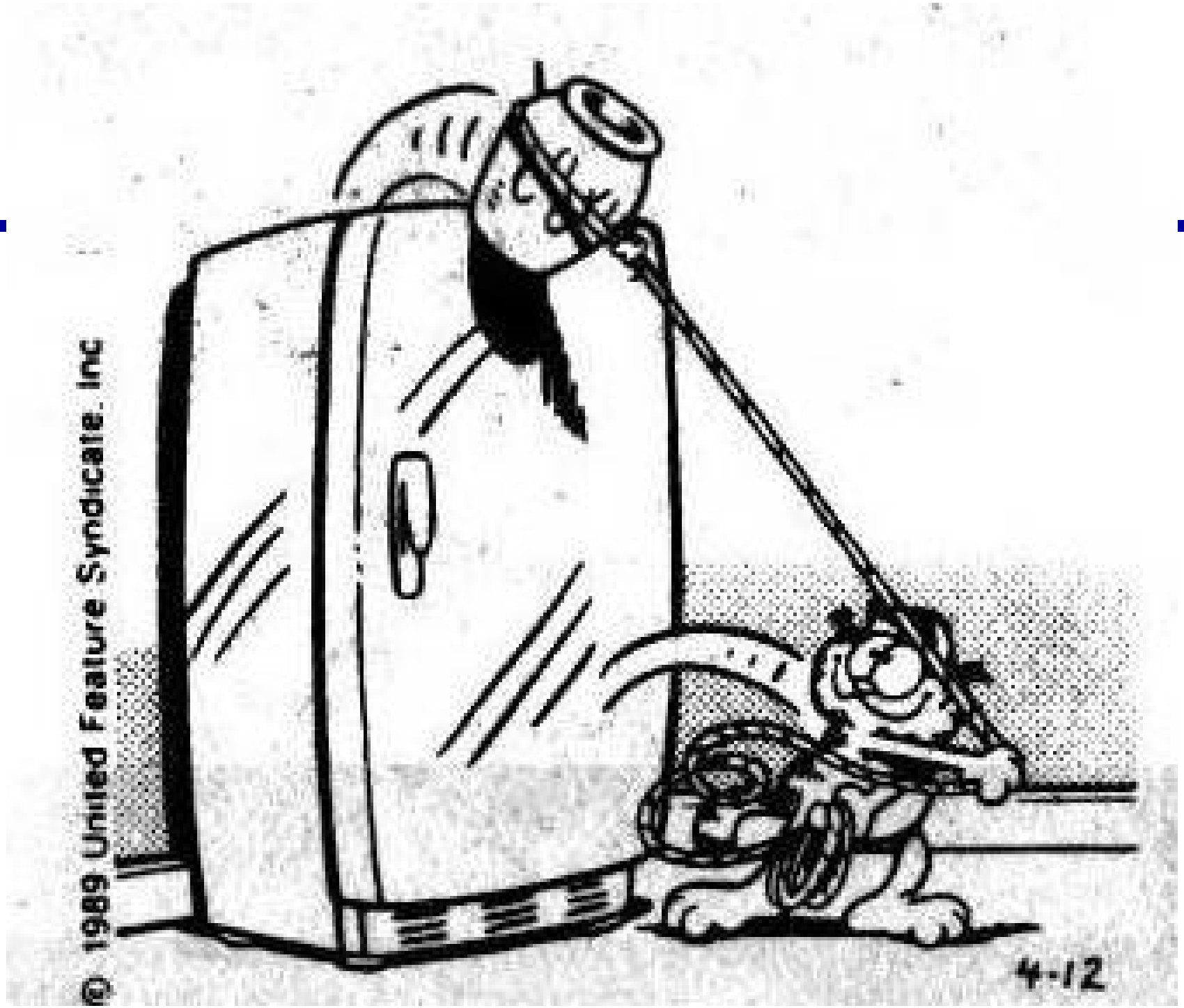
Expanded panel

BEFORE



SMA

you
&
me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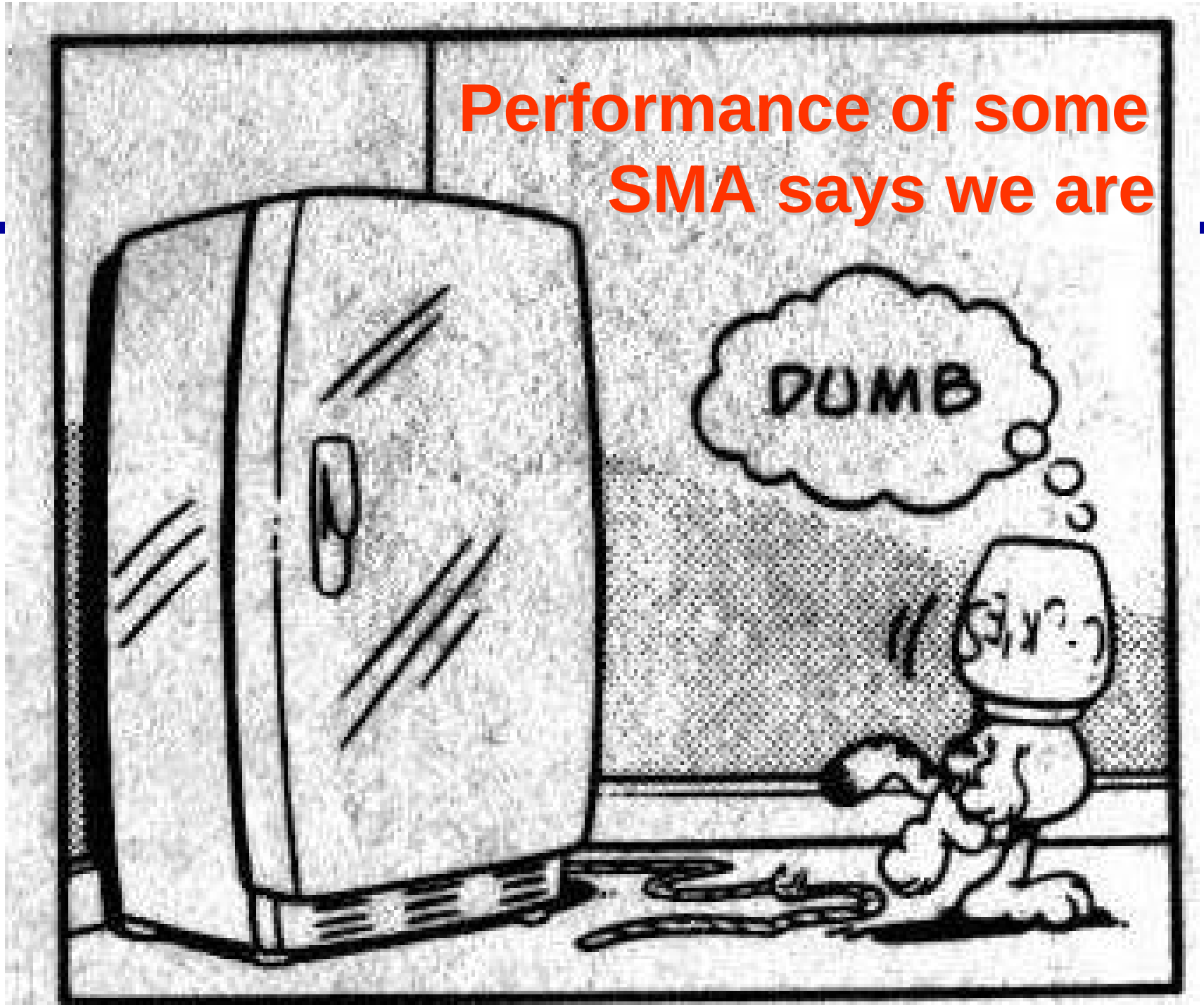
Performance of some SMA says we are



SMA - why a course?

- basically a technology transfer from Europe
- not only one European approach
- increased interest locally
- start-up problems
- some lack of understanding of basics
- need to fix the platform of knowledge

Usage of SMA's in Europe

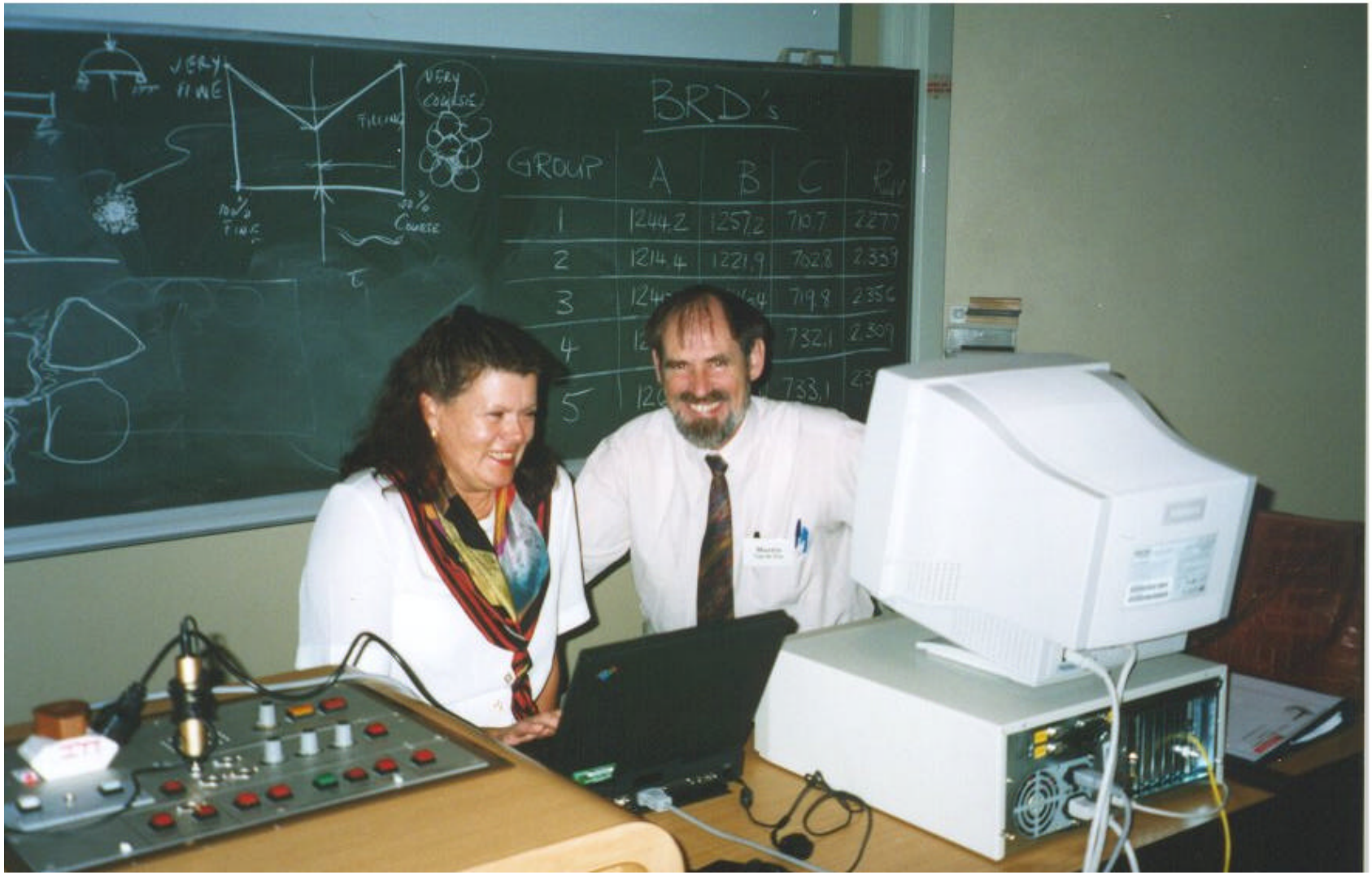
Country	Total Area ($10^6 m^2$)	% **1996**
Denmark	14	1.1
Germany	>100	8
Netherlands	32	8
Norway	12	3
Poland	12	
Spain (BBM)	69	
Sweden	50	18

Equates to > 27 000 km of single lane roads

SMA's functional surface characteristics

- good skid resistance *(safety)*
- an even surface *(driver comfort)*
- low noise *(environmental & comfort)*
- durability - rut free *(pavement performance)*
- improved visibility *(safety)*

Three day SMA course



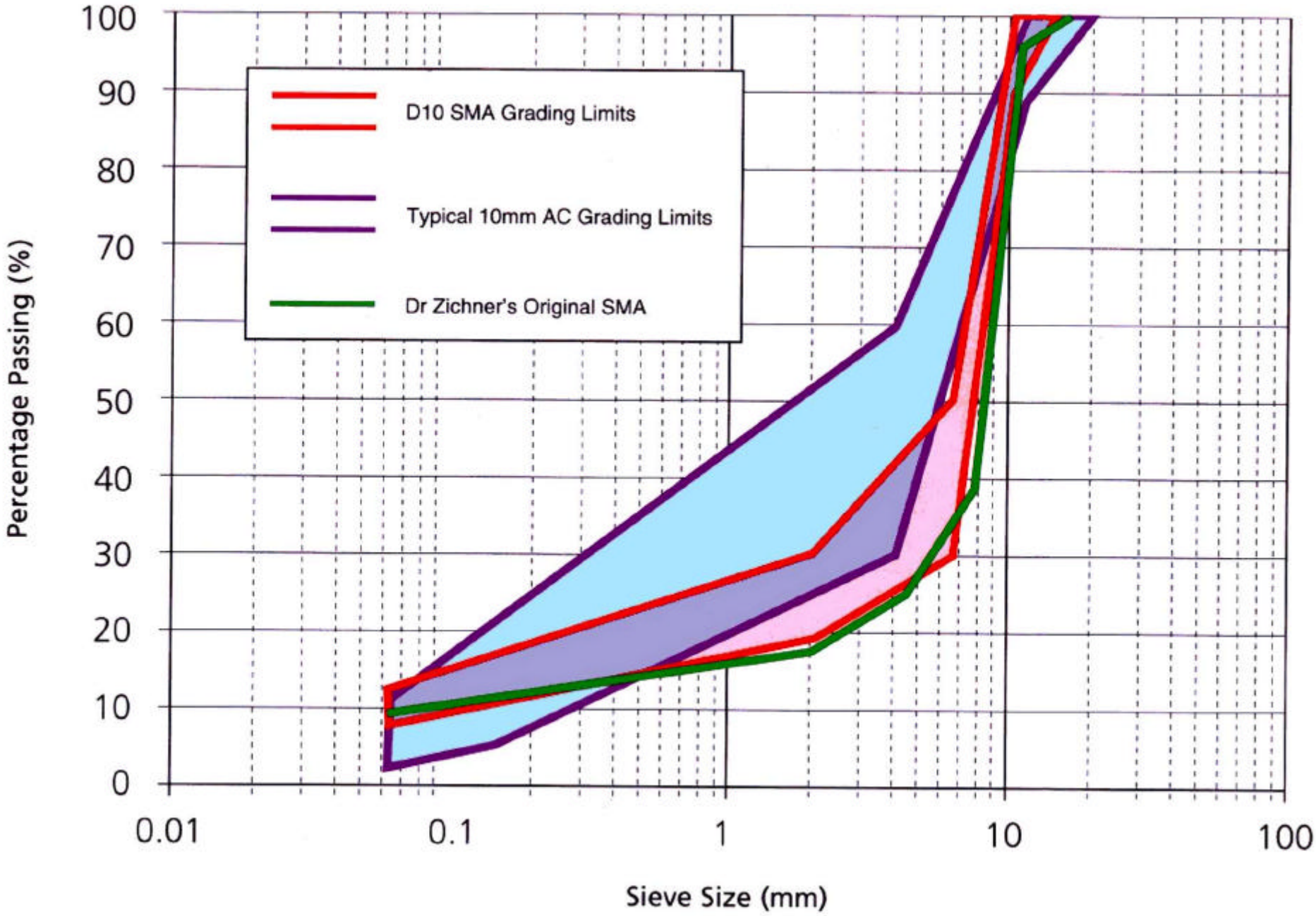
SMA course at Stellenbosch

- Ingeborg Schröder - BP Germany
- High local input
- 46 delegates
  - *client bodies*
  - *suppliers*
  - *consultants*
  - *contractors*
  - *students*

What is a real SMA ?

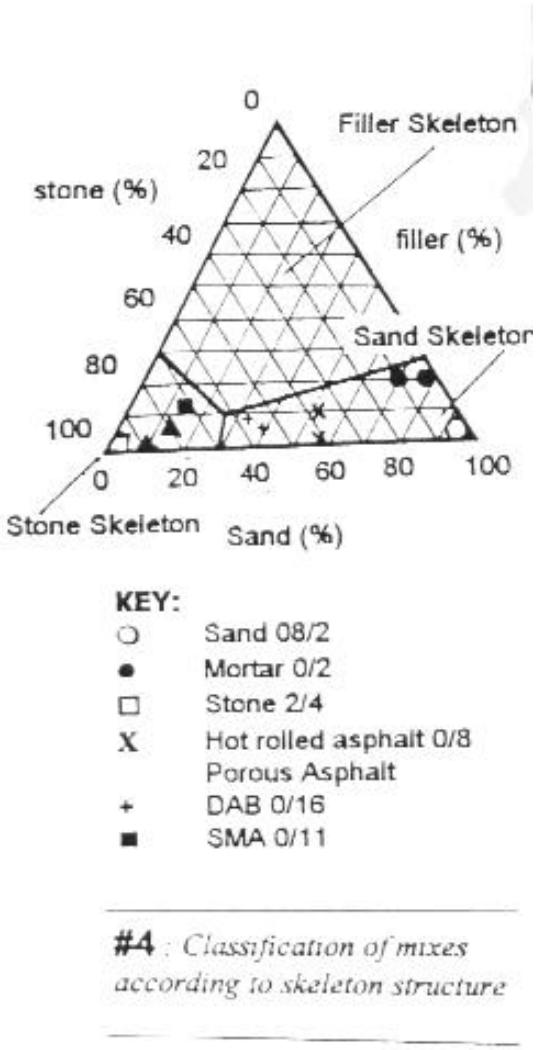
according to Dr Zichner 1960's

- self supporting stone skeleton
- bitumen rich mastic ("glue")
- low voids content (impermeable)
- efficient stabilisation of the mastic
  - *during transport, construction*
  - *prevent segregation*


D10 SMA Grading Limits
Typical 10mm AC Grading Limits
Dr Zichner's Original SMA
Percentage Passing (%)
100
90
80
70
60
50
40
30
20
10
0
0.01
0.1
1
10
100
Sieve Size (mm)

Course contents

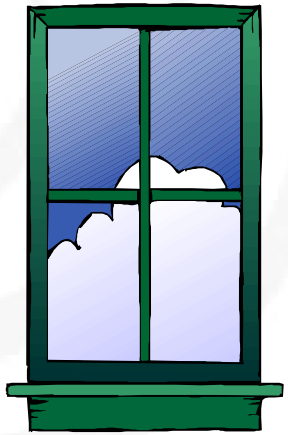
- Functional / structural requirements of surfacings
- SMA mix design - spatial approach
- Production, transport and construction
- Problems and failures
- Local experience
- Cost benefit



#4 : *Classification of mixes according to skeleton structure*

SMA problem areas

- mix design
- aggregate requirements
- specification status and developments
- smaller window for manufacture and construction
  - *tighter quality control*



So where to with SMA's

- standardise the design approach
- allow for changes to the current specification
- develop manufacture and placing guidelines
- get ASPASA together in getting SMA's to work in SA