



in cooperation with IFIP

**ABAKUS is the ABL And KARL User Group**

**Experiences in Hardware Development  
using High Level Languages and CAE tools**

**Advance Programme  
of the  
2<sup>nd</sup> ABAKUS Workshop  
Innsbruck-Igls, Austria  
September 5 - 7, 1988**

The 2nd ABAKUS Workshop offers the opportunity

- to learn from user's experience about the use of the textual hardware description language KARL and its graphic companion language ABL,
- to learn more about modern VLSI design methodologies,
- to get an overview of VLSI CAE tools around KARL and their applications in the design process,
- to discuss the KARL system and further developments,
- to get a comparison of KARL and other commonly known hardware description languages e.g. VHDL.

## Important Adresses

**Local Chairman :**  
Dr. Bernhard Quatember  
Innsbruck University  
Techniker Straße 15  
A-6020 Innsbruck, Austria  
*phone:* (xx 43) 5222 748 - 5241

**Program Chairman :**  
Prof. Werner Grass  
Passau University  
P.O.Box 2540  
D-8390 Passau, F.R.G.  
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- 321

**Publicity Chairwomen :**  
Karin Lemmert & Andrea Wodtke  
Kaiserslautern University  
P.O.Box 3049  
D-6750 Kaiserslautern, F.R.G.  
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- 2625 or  
- 2644

### Welcome Cocktail

Hotel " Schwarzer Adler"  
Kaiserjägerstr. 2  
A-6021 Innsbruck, Austria  
*phone :* (xx 43) 5222 27109  
or 32486

### Workshop Banquet

Hotel " Tümmelerhof"  
A-6100 Seefeld, Austria  
*phone :* (xx 43) 5212 25710

### Tourist Information Centers ( Hotel Reservation ) :

Fremdenverkehrsverband  
Innsbruck  
Burggraben 3  
A-6021 Innsbruck, Austria  
*phone :* (xx 43) 5222 25715  
*telex :* 5-3423

Fremdenverkehrsverband  
Igls  
A-6080 Igls, Austria  
*phone:* (xx 43) 5222 77101  
*telex :* 5-33423

## Fees and Payment

Deadline for early registration :

August, 1st 1988

Registration fee

for workshop participants :

early registration ..... DM 250,-  
late registration ..... DM 300,-

for accompanying persons :

early registration..... DM 130,-  
late registration ..... DM 150,-

The registration fee for workshop participants includes coffee breaks at workshop site as well as social events.

For accompanying persons registration fee includes the excursion to Meran, the welcome cocktail at Hotel "Schwarzer Adler" and the workshop banquet at Hotel "Tümmelerhof" in Seefeld, but not the coffee breaks at the congress center.

Please, send Your check payable to  
Stadtparkasse Kaiserslautern,  
D-6750 Kaiserslautern/F.R.G.,  
Sonderkto. ABAKUS,  
K. Lemmert & A. Wodtko .

Or, please, transfer payment to  
account no.: 128 014 750  
at  
Stadtparkasse Kaiserslautern  
bank code number: 540 501 10  
ABAKUS, K. Lemmert & A. Wodtko  
Kaiserslautern University

## 2nd ABAKUS Workshop

### Advance Programme

#### Sunday, September 4th, 1988

18.00 - 20.00 **Welcome Cocktail** at Hotel 'Schwarzer Adler',  
Innsbruck, Kaiserjägerstraße 2

#### Monday, September 5th, 1988

09.00 - 10.00 **Registration** at the Congress Center Innsbruck-Igls

10.00 - 10.20 **Official Opening**

10.20 - 11.20 **Invited Paper :**  
Pawlak, A., GMD, Bonn, F.R.G.  
**Standards in design automation versus KARL/ ABL  
design environment**

#### **Session 1 : Verification**

Chairperson: B. Quatember,  
University of Innsbruck

11.20 - 11.50 Grass, W. ( University of Passau, F.R.G. )  
**VERENA - A CAD-tool for designing guaranteed  
correct logic circuits**

11.50 - 12.20 Mutz, M. ( University of Passau, F.R.G. )  
**Logic Verification based on function graphs**

12.20 - 12.50 Jansen, K. ( University of Passau, F.R.G. )  
**Transformations of RT-descriptions guided by featur-  
es of logic implementations to be verified**

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12.30 - 14.00 **Lunch**

#### **Session 2 : Synthesis**

Chairperson: W. Grass  
University of Passau

14.00 - 14.30 Hartenstein, R./ Lemmert, K. ( University of  
Kaiserslautern, F.R.G. )

**A systolic design system using KARL**

14.30 - 15.00 Bonomo, A./ Italiano, M./ Lavagno, L./ Maggioli, L./  
Melgara, M./ Paolini, M./ Stamelos, I. ( CSELT, Torino,  
Italy )

**Easily testable data part synthesis in the BACH silicon  
compiler**

15.00 - 15.30 Bonomo, A./ Lavagno, L. ( CSELT, Torino,  
Italy )

**Control part synthesis in the BACH silicon compiler**

15.30 - 16.00 **Coffee break**

### **Session 3 : Design Environment and User Interface**

Chairperson : A. Pawlak  
GMD, Bonn

- 16.00 - 16.20 Hartenstein, R./ Jörg, K./ Welters, U. ( University of Kaiserslautern, F.R.G. )  
A multiple abstraction level editor for VLSI design
- 16.20 - 16.40 Bonomo, A./ Girardi, G./ Lecce, A./ Maggiulli, L. ( CSELT, Torino, Italy )  
GENMON: a specialized ABL editor for design methodology descriptions
- 16.40 - 17.00 Rust, S. ( University of Stuttgart, F.R.G. )  
An experimental system design environment for chip design

### **Session 4 : Short Presentations**

Chairperson : A. Wodtke  
University of Kaiserslautern

- 17.00 - 17.15 Maertens, D. ( University of Erlangen, F.R.G. )  
Special Problems of the event driven simulation strategy
- 17.15 - 17.30 Rauscher, R. ( University of Hamburg, F.R.G. )  
Analysis of design methodologies for digital systems

## **Tuesday, September 6th, 1988**

Excursion day for accompanying persons

### **Session 5 : RTL Use in Computer Science Education**

- 09.30 - 11.30 short presentations, panel discussion ( late submissions are welcome \* )
- 11.30 - 13.30 Lunch out of workshop site

### **Session 6 : CHDL-based Methodologies**

- 13.30 - 15.30 short presentations, panel discussion ( late submissions are welcome \* )

15.30 - 16.00 Coffee Break

### **Session 6 : ( continue )**

- 16.00 - 17.30 short presentation, panel discussions
- 19.00 - 23.00 Banquet at Hotel Tümmelerhof, Seefeld

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\*) contact Prof. W. Grass by phone or at workshop site

## Wednesday, September 7th, 1988

### Session 7 : KARL-4

Chairperson : A. Patrucco, CSBLT, Torino

08.30 - 09.10 Hartenstein, R./ Hauck, R./ Lemmert, K. ( University of Kaiserslautern, F.R.G. )

Some new features in KARL-4 and superKARL - a survey -

09.10 - 09.40 Hauck, R. (University of Kaiserslautern, F.R.G. )

KARL-4 - A hardware description language for the design and synthesis of digital hardware

09.40 - 10.10 Alfs, G./ Hartenstein, R./ Riedmüller, M. ( University of Kaiserslautern )

SCIL-III - A language for simulator and tester activation

10.10 - 10.30 Coffee break

### Session 8 : Functional Testing Tools

Chairperson : R. Hartenstein

University of Kaiserslautern

10.30 - 11.00 Alfs, G./ Hartenstein, R./ Wodtke, A. ( University of Kaiserslautern, F.R.G. )

The KARATE system - Integrating functional test development into the KARL design environment

11.00 - 11.30 Jaime, A./ Villar, B. ( University of Cantabria, Spain )

SECUENTEST: Automatic generation of checking experiments for sequential machines

### Session 9 : Practical Experience in Chlp Design

Chairperson : K. Lemmert

University of Kaiserslautern

11.30 - 12.00 Cecinati, R./ Fossati, R./ Licciardi, L./ Pacchiotti, A./ Paolini, M. ( CSBLT, Torino, Italy )

The use of KARL III in the RIPAC chip design

12.00 - 12.30 Donati / Fatini (ITALTEL, Settimo Milanese, Italy)

Experience on CVS-BK use on a signal processor circuit

12.30 - 14.00 Lunch

14.00 - 16.00 Tutorial on KARL and related software packages