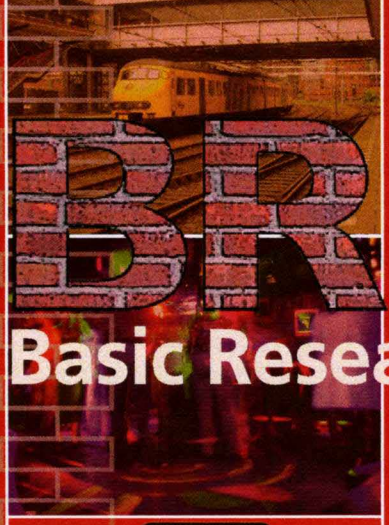
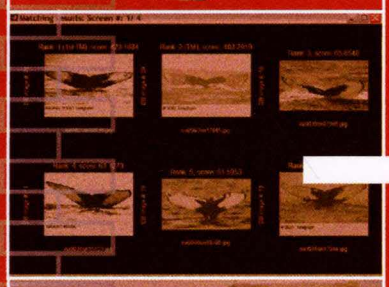
ARCHIEF BIBLIOTHEEK CWI 21-28

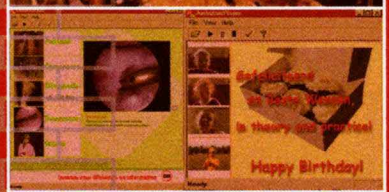
BRICKS

Basic Research in Informatics

www.bsik-bricks.nl







- geeft een sterke impuls aan het fundamenteel onderzoek in de informatica
- versterkt bestaande excellente onderzoeksgroepen en bevordert onderlinge samenwerking
- bevordert de competentieopbouw
- intensiveert de interactie met industrie en andere ICT-gebruikers

President:
prof.dr.J.K. Lenstra, Centrum voor Wiskunde en Informatica
Vice-president:
dr A.P. Meijler (NWO)
Projectmanager en contactpersoon:
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www.bsik-bricks.nl

BRICKS realiseert samenwerking tussen:
het Centrum voor Wiskunde en Informatica (CWI),
NWO/Exacte Wetenschappen (NWO/EW),
Technische Universiteit Delft (TUD),
Technische Universiteit Eindhoven (TU/e),
Universiteit Twente (UT) en
Universiteit Utrecht (UU).

CWI Centrum voor Wiskunde en Informatica
TU Delft
NWO Nederlandse Organisatie voor Wetenschappelijk Onderzoek
Universiteit Utrecht
TU/e technische universiteit eindhoven
Universiteit Twente

PDC1
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Wan.Fokkink@cwi.nl

Security, identification, and authentication
CWI, TU/e, UT

The project addresses a wide range of research issues related to secure access to networks. Subprojects address integration of public key and biometry-based access, solving number-theoretic problems in cryptography and development of robust and secure negotiation protocols.
Collaboration: Siemens

PDC2
prof.dr. M.R.H. Mandjes
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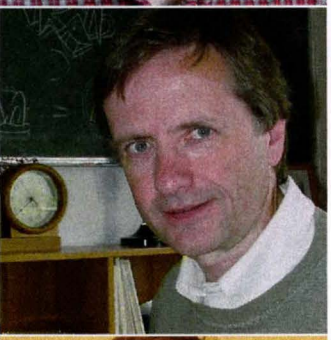
e: Michiel.Mandjes@cwi.nl

Quality of service in communication networks
CWI, TU/e, UT

Fundamental insight in QoS problems in next generation networks;
New methods, algorithms and tools for how to realize and control QoS in a cost-effective manner.
Collaboration: TNO Telecom, Bell Laboratories/Lucent Technologies, France Télécom, Philips Research



PDC3
dr. D.C.A. Bulterman
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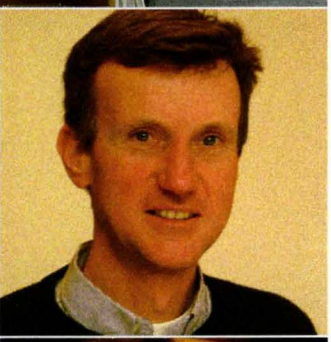
Network infrastructure support for convergent interactive media
CWI

Performance modelling for adaptive applications in heterogenous environments;
Application based control of network resources;
User interface models for adaptive control.



MSV1
prof.dr.ir. B. Koren
t: 020 – 592 4114
e: Barry.Koren@cwi.nl

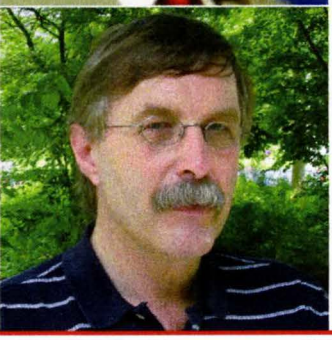
Scientific computing
CWI, TUD, TU/e, UU, UT

Development of novel, generic computational methods;
Solution of challenging problems from engineering, physics, biology, medicine and economy.
Applications and contacts:
Bubbly flows (Shell, DSM, Unilever)
Spacecraft aerodynamics (TNO-PML, ESA-ESTEC)
Plasma ignition (Philips, ASML)
Electromagnetic compatability (Thales)
Option pricing (banks)

MSV2
prof.dr. M.H. Overmars
t: 030 – 253 3736
e: markov@cs.uu.nl

Interactive virtual environments
CWI, TUD, UU

Automated navigation and manipulation task in virtual environments;
Interaction with large data sets in virtual environments;
User performance modelling for bimanual interaction
Collaboration: Green Dino, Esemble
Interaction: VL-e



IS1
prof.dr. M.L. Kersten
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Databases for personalized ubiquitous intelligent devices
CWI, UT, UU

The development of an organic database software system which can be embedded in a wide collection of hardware appliances. It should also provide an autonomous self-descriptive, self-organizing, self-reparable, self-aware and stable data store-recall functionality to its environment.
Collaboration: Philips Research
Interaction: MultimediaN, LOFAR

PROJECTS

Basic Research in Informatics

The petabyte data mining challenge
CWI, UU

How to analyse petabytes of data, distributed throughout the world for nuggets of information?
Database technology is the necessary basis for efficient, world-scale data mining algortihms.
Collaboration: UMC-U, AMC

IS2
prof.dr. A.P.J.M. Siebes
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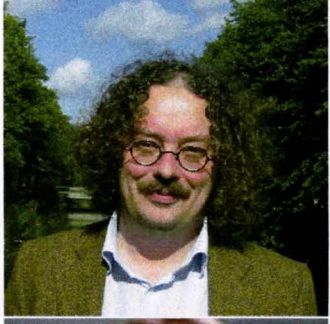

Decision support systems for logistic networks and supply chain optimization
CWI, TU/e, UT, UU

Trade-off of different costs, benefits, and other objectives;
The model vs algorithm paradigm;
Optimization across chains and networks by using internet;
Design of the most efficient chain or network.
Collaboration: ASML, CQM, Dow, Microsoft, NSR, ORTEC, Philips, Unilever

IS3
prof.dr.ir. K.I. Aardal
t: 020 – 592 4132
e: K.I.Aardal@cwi.nl

Quantum computing
CWI

New quantum algorithms;
New connections with classical CS;
New connections with physics.

AFM1
prof.dr. H.M. Buhrman
t : 020 – 5924076
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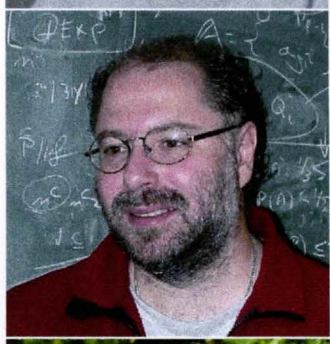

Algorithms in bio-informatics
CWI, TU/e, UU

Investigating and extending the role of mathematics and computer science in life sciences.
Collaboration: Systems Biology Nederland, UvA, VU, UU, Unilever, CBS, BSi, CELERA

AFM2
Dr. L. Stougie
t: 020 – 592 4117
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Formal methods for active networking
CWI, TU/e

Components and component connectors;
Reo;
Transmission Control protocols for the internet.

AFM3
dr. F.S. de Boer
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Reinforcing Computer Science
NWO

Researcher-based competition:
Quality, embedding, contingency and enhancement.
Open to non-BRICKS members.

FOCUS
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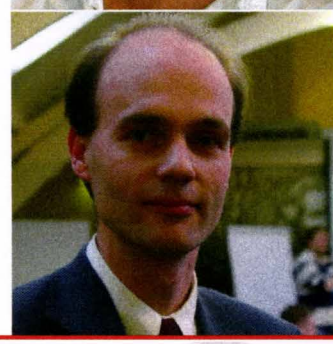

Basic Research in Informatics

PROJECTS

Onderzoeksuitdagingen

- Verbeteren van veiligheid en betrouwbaarheid van internetgebruik en software applicaties
- Ontwikkelen van nieuwe algoritmen voor quantum computing
- Ontwikkelen van formele methoden voor het dynamisch gebruik van software componenten
- Ontwikkelen van een nieuwe generatie database technologie als basis voor ambient intelligence en data mining op peta-schaal
- Ontwikkelen van kennis en instrumenten om de Quality of Service van toekomstige heterogene netwerken (breedband, draadloos, lokaal) te voorspellen en te beheersen
- Ontwikkelen van nieuwe algoritmen voor scientific computing, visualisatie en virtuele omgevingen
- Ontwikkelen van geavanceerde, intelligente beslissystemen voor logistieke optimalisatie
- Ontwikkelen van algoritmen op het terrein van de bio-informatica en biometrie

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