

1st ANNUAL FENET WORKSHOP

13th - 15th November 2001
Wiesbaden, Germany

Industry Analysis Requirements Workshop
13th - 14th November 2001
Hotel Dorint, Wiesbaden, Germany

FENET / NAFEMS Seminar:
„FEM in Structural Dynamics“
14th - 15th November 2001
Hotel Oranien, Wiesbaden, Germany

Preliminary Version: 09th November 2001



FENET THEMATIC NETWORK
Contract No G1RT-CT-2001-05034
COMPETITIVE AND SUSTAINABLE
GROWTH (GROWTH) PROGRAMME



NAFEMS
The International Association for the
Engineering Analysis Community

1st ANNUAL FENET WORKSHOP

Industry Analysis Requirements Workshop

13th - 14th November 2001

Hotel Dorint, Wiesbaden, Germany

FENET is a consortium of 110 organisations, representing 19 different countries, with a strong common interest in the successful exploitation of finite element and related technology by European Industry.

The network wishes to identify a series of technology issues across a range of industries which can form the basis for interactive workshops which will ultimately produce useful reference materials such as:

- Best practice guides
- Case studies
- State of the art reviews
- Technical benchmarks etc...

A key part of that process is to identify the analysis needs of industry. The first annual workshop will address this by identifying and discussing:

- Key industry drivers
- State of practice
- Current uptake of technology
- Integration issues
- Analysis capability issues
- Best practice methods
- Barriers to uptake
- State of the art
- Research requirements

Presentations will be given by leading industry figures, but it is also anticipated that participants should also be actively involved in the discussions and be prepared to make contributions and informal presentations.

The workshop will critically examine the requirements in the following industry sectors

- Aerospace
- Land Transport
- Bio-medical
- Consumer Goods
- Marine Offshore
- Civil Construction
- Power & Pressure Systems
- Process & Manufacturing

Format of the Workshop

The workshop will commence with a single plenary session where an overview of the FENET project aims and objectives will be given.

The workshop will then break up into four parallel sessions:

1. Aerospace and Land Transport
2. Bio-medical and Consumer Goods
3. Marine Offshore and Civil Construction
4. Power & Pressure Systems and Process & Manufacturing

Participants should indicate on the registration form which session they wish to join and to be prepared to interactively contribute to the presentations. It is hoped that most participants will come prepared to make an informal presentation based say on a PowerPoint presentation, of up to 15 minutes. Please indicate the anticipated length of your presentation on the registration form.

Likewise participants should also indicate which RTD Technology Area they wish to participate in for the parallel afternoon session, again indicating if they wish to make a presentation.

- Durability and Life Extension
- Product & System Optimisation
- Multi Physics & Analysis Technology
- Education & Dissemination

FENET / NAFEMS Seminar: „FEM in Structural Dynamics“14th - 15th November 2001

Hotel Oranien, Wiesbaden, Germany

The use of modern lightweight structures and steadily increasing performance requirements in a growing number of applications necessitate structural dynamics computation. The finite element method is one of the most important tools in this area. Developments in structural dynamics theory and in computer software and hardware increase the possibility of near-to-reality simulations. These advances are nowadays accompanied by combination with other methods and procedures for structural dynamics analysis as well as by the efficient implementation of the modelling process.

If prototypes are available for mechanical testing, modern vibration measurement techniques are often used to partner structural dynamics calculations. Nevertheless, simulation and analysis of response to time-variable loading demands considerable effort in modelling and computation – especially if the loading varies over a long time period of within a broad frequency spectrum. Increasingly non-linear effects have to be considered, which raises the computational effort. For a given problem, the selection of software and use of an appropriate modelling and numerical process, as well as the experience of the engineer-analyst, have a marked influence on the computational effort and the quality of the results.

The FENET/NAFEMS' seminar with papers from six countries will contribute to the safer and more efficient use of FEM tools for structural dynamics investigations – topical trends in theory and software development will be illustrated and interesting applications presented. The main themes are as follows:

- Modelling, simplification of modelling, model reduction. Determination of loading, boundary conditions and other parameters. Appropriate modelling of damping.
- Coupling structural dynamics with other procedures and methods of dynamic analysis.
- New and proven numerical procedures for the solution of structural dynamics problems.
- Inclusion of measurement techniques and measured values.
- Model verification and evaluation of results.
- Updating models.
- Practical examples.
- Features of available software.

There will be, naturally, ample time for participants to discuss and exchange experience. The seminar will be complemented by a software display, which gives an overview of software available in this field of application.

Prof. Dr. Manfred Zehn
(FEMCOS mbH/Universität Magdeburg)
Member of the German NAFEMS Steering Committee
Seminar technical co-ordinator

Agenda – Tuesday, 13th November

Plenary Session - Room: „Paris“

9:00 Overview of FENET Aims & Objectives by Nigel Knowles (WS Atkins - United Kingdom)

Parallel Sessions on Industry Sectors

Room 1: „London“

**Land Transport &
Aerospace**

Room 2: „Hamburg“

**Civil Construction &
Marine and Offshore**

Room 3: „Berlin“

**Consumer Goods &
Biomedical**

Room 4: „Wiesbaden“

**Process and Manufacturing &
Power and Pressure Systems**

9:30 Analysis Issues & Business Drivers

Land Transport

Enrico Mangino (Centro Recherche Fiat - Italy), Gerhard Müller (Siemens AG - Germany)

Civil Construction

Gerd-Jan Schreppers (TNO - The Netherlands), Geir Horrigmoen (NORUT Teknology Ltd. - Norway)

Consumer Goods

David Ellis (IDAC Ltd. - United Kingdom), Niels Dam Lerke (Nokia A/S - Danmark)

Process and Manufacturing

Stefano Odorizzi (Engin Soft Trading s.r.l. - Italy), Gerrit-Jan Dop (SKF - The Netherlands)

10:00 Analysis Issues & Business Drivers

Aerospace

David Fitzsimmons (EADS/ Airbus - France), Costas Stavrinidis (ESTEC - The Netherlands)

Marine and Offshore

Jack Reijmers (Nevesbu - The Netherlands), John McVee (QINETIQ - United Kingdom)

Biomedical

Yasar Deger (Sulzer Markets and Technology AG - Switzerland), Laurence Marks (NT Engineering - United Kingdom)

Power and Pressure Systems

Nawal Prinja (NNC Ltd. - United Kingdom), Iain Davidson (DETR - United Kingdom)

10:30 Presentations

Land Transport

Integration of Computational Fluid Dynamics in Automotive Engineering and Design
Riaz Sanatian (Computational Dynamics - United Kingdom)

Quality and Optimization of Numerical Models for Industrial Applications

Pascal Lardeur (Compiegne University of Technology (UTC) - France)

Civil Construction

Overview of Research at Newcastle University
Peter Gosling (University of Newcastle - United Kingdom)

Fire, Explosion, Seismic and other Hazard Loads

Chris Rogers (CREA Consultants Ltd. - United Kingdom)

Deployment of Shell Elements for Complex Steel Structures
Manfred Zehn (FEMCOS mbH - Germany)

Consumer Goods

Overview of Industry Requirements in Consumer Goods
David Ellis (IDAC Ltd. - United Kingdom)

Process and Manufacturing

Gas assisted injection molding Using Advanced Optimisation Tools
Frederico Urban (University of Trieste - Italy)

Design Process Chain and Expectations in the Forging Industry

Guido Berti (University of Padova - Italy)

Precision Composite Molding
Paul Lyons (FEA Ltd. - United Kingdom)

11:00 - 11.15 Coffee Break

Cont. Presentations

Numerical Simulation as Tool for Development of Prototypes (Virtual Try-Out Space)
Ludek Kovar (Mecas s.r.o. - Czech Republic)

Simulation of Flow and Sound Interactions

Herrmann Landes (University Erlangen - Germany)

Reinventing the Wheel

Casimir Katz (Sofistik AG - Germany)

Application of Discrete/Finite Element Algorithms to the Analysis of Masonry Buildings and Bridges

Carl Brookes (Gifford and Partners - United Kingdom)

Can Forming

Martin Dutko (Rockfield Software Ltd. - United Kingdom)

Process Simulation of Consolidation of Thermoplastic Composites

Maciej Wysocki (Sicomp AB - Sweden)

Presentation

either by Jean-Loup Chenot (CEMEF) or by Richard Ducloux (Transvalor)

Cont. Parallel Sessions on Industry Sectors

Room 1: „London“

Land Transport &
Aerospace

Room 2: „Hamburg“

Civil Construction &
Marine and Offshore

Room 3: „Berlin“

Consumer Goods &
Biomedical

Room 4: „Wiesbaden“

Process and Manufacturing &
Power and Pressure Systems

Cont. Presentations

Aerospace

FEM Activities at Atos Origin
Otmar Hilpert (Atos Origin GmbH - Germany)

Needs and Expectations at Volvo Aero Corporation
Per Ekedahl (Volvo Aero Corp. - Sweden)

Finite & Boundary Element Technology Applied to Acoustic & Structural Analysis: Current Status & Key Trends for the Future
Peter Segaeert (LMS - Belgium)

Marine & Offshore

Simulation of Local Damage in Ship to Ship Collision
J. T. Gierlinski (WS Atkins - United Kingdom)

An Integral Approach of Hydromechanics and Ship Hull Elasticity
Jack Reijmers (Nesvesbu - The Netherlands)

Application of Finite Element Analysis to Crack Management in Naval Ships
John McVee (QINETIQ - United Kingdom)

The Development of Validated Finite Element Analysis Toolsets for TRIMARAN warships
John McVee (QINETIQ - United Kingdom)

Biomedical

Finite Element Analysis of Medical Devices - WS Atkins' Perspective
Stuart Kelly (WS Atkins - United Kingdom)

Bone Fracture Modelling
Vinod Vijavakumar (Oxford University - United Kingdom)

Analysis of Ultrasonic Devices for Biomedical Applications
Peter Weber (Fraunhofer Institut - Germany)

Code Requirements for Analysis and Prediction of Traumatic Injuries
Mike Neale (Transport Research Laboratory (TRL) - United Kingdom)

Design and Analysis of Orthopedic Implants by Means of FE Simulation
Yasar Deger (Sulzer Markets and Technology AG - Switzerland)

Power and Pressure Systems

FEA and Design Code Assessment
Nawal Prinja (NNC Ltd. - United Kingdom)

Use of FEA by UK Gas Industry
Keith Wright (Structural Integrity Assessments Ltd.)

Pressure Vessel Design and Plasticity
Marc Juwet (KaHo Sint-Lieven)

12:30 General Discussion Open Forum (Parallel Sessions)

13:00 Lunch

Agenda – Tuesday, 13th November

Parallel Sessions on RTD Thematic Areas

Room 1: „London“

Multi Physics
& Analysis

Room 2: „Hamburg“

Education
& Dissemination

Room 3: „Berlin“

Durability and
Life Extension

Room 4: „Wiesbaden“

Product & System
Optimisation

14:00 Background Issues & Requirements Based on Presentations arising out of the NSC meeting

Mark Cross (Greenwich University - United Kingdom), Gilbert Peffer (CIMNE - Spain)

John Smart (Manchester University - United Kingdom), Jim Wood (Paisley University - United Kingdom)

Adib Becker (Nottingham University - United Kingdom), Nicola Petrone (University of Padova - Italy)

Grant Steven (Durham University - United Kingdom), Carlo Poloni (Universita de Trieste - Italy)

14:30 Presentations

An Overview of the Challenges in the Computational Modelling of Multi-Physics Processes

(Greenwich University - United Kingdom), Gilbert Peffer (CIMNE - Spain)

Dimensional Addition and FE Idealisation in the Conceptual Design of Aerospace Structures

Hengan Ou (University of Belfast - United Kingdom)
Needs of integrated Design and Analysis of Space Vehicles
Wilhelm Kordulla (ESA/ESTEC - The Netherlands)

Multi-Physics Needs in the Marine Industry

John McVee (QINETIQ - United Kingdom)

An Industrial View

Nawal Prinja (NNC Ltd. - United Kingdom)

Teaching Mechanics by Computational Mechanics

Grant Steven (Durham University - United Kingdom)

NAFEMS' Registered Analyst Scheme

Brian Spooner (NAFEMS - United Kingdom)

ITEC4 GICE - a New Method for Training & Education

Roger Oswald (Werbos GbR / ITEC4 GICE - Germany)

Advanced Assessment Concepts for Leight Weight Structures

Alfred Cornec (GKSS Research Centre - Germany)

Design of Elastomeric Engineering Components Using FEA: Current Practise and Future Trends

Hamid Ahmadi (TARRC - United Kingdom)

Fatigue Assessment of FPSO

Jack Reijmers (Nevesbu - The Netherlands)

FE Based Fatigue Analysis

Neil Bishop (RLD Ltd. - United Kingdom)

Issues in Product Optimization at Samtech

Patrick Morelle (Samtech Deutschland GmbH - Germany)

World Organizations Involved in Structural and Multidisciplinary Optimization

Oswaldo Querin (University of Leeds - United Kingdom)

Process Optimization Requirements and Results in Injection Modelling

Frederico Urban (University of Trieste)

Data Transfer Issues in PSO

Geoffrey Butlin (Transcendata Europe - United Kingdom)

15:30 - 16.00 Coffee Break

Multi-Physics Simulation Needs in Bio-Medical Engineering

Laurence Marks (Integrated Analysis Solutions - United Kingdom)

Multi-Physics Simulation in Process and Manufacturing

Arvil Slone (Greenwich University - United Kingdom)

The Role of International Standards for Information Exchange

David Leal (Caesar Systems Ltd. - United Kingdom)

A Dutch View on Educational Requirements

Jack Reijmers (Nevesbu - The Netherlands)

Experiences in Teaching Analysis Methods

Peter Gosling (University of Newcastle - United Kingdom)

Validation & Verification of Models

Chris Rogers (CREA Consultants Ltd. - United Kingdom)

The Work of NAFEMS Education & Training Working

John Smart (Manchester University - United Kingdom)

Presentation by

Charles Kernthaler, Mike Bright (AWE - United Kingdom)

Deterioration and Repair of Reinforced Concrete Structures

Geir Horigmoe (NORUT Teknology Ltd. - Norway)

FE simulation of laboratory tests on knee implants

Yasar Deger (Sulzer Markets and Technology AG - Switzerland)

Robustness Requirements in System Development

Rainer Hoffmann, Jacek Marczyk (EASi Engineering GmbH - Germany)

FENET PSO Survey of Members

Grant Steven (University of Durham - United Kingdom)

Advanced Assessment Concepts for Leight Weight Structures

Alfred Cornec (GKSS Research Centre - Germany)

Forging Simulation for Aeroengine Components

Hengan Ou (University of Belfast - United Kingdom)

16:30 - 17.00 General Discussion / Open Forum (Parallel Sessions)

18:30 FENET Dinner

20:00 - 21:30 Coordinator's Workshop (Room 1)

Agenda – Wednesday, 14th November

Plenary Session

Room: „Genf“

Industry Sector - Summary of Issues

8:00 Land Transport Enrico Mangino (Centro Recherche Fiat - Italy), Gerhard Müller (Siemens AG - Germany)	8:10 Aerospace David Fitzsimmons (EADS/ Airbus - France), Costas Stavrinidis (ESTEC - The Netherlands)	8:20 Civil Construction Gerd-Jan Schreppers (TNO - The Netherlands), Geir Horrigmoe (NORUT Teknology Ltd. - Norway)	8:30 Marine and Offshore Jack Reijmers (Nevesbu - The Netherlands), John McVee (QINETIQ - United Kingdom)
8:40 Consumer Goods David Ellis (IDAC Ltd. - United Kingdom), Niels Dam Lerke (Nokia A/S - Denmark)	9:00 Biomedical Yasar Deger (Sulzer Markets and Technology AG - Switzerland), Laurence Marks (NT Engineering - United Kingdom)	9:10 Process and Manufacturing Stefano Odorizzi (Engin Soft Trading s.r.l. - Italy), Gerrit-Jan Dop (SKF - The Netherlands)	9:20 Power and Pressure Systems Nawal Prinja (NNC Ltd. - United Kingdom), Iain Davidson (DETR - United Kingdom)

9:30 Coffee Break

Plenary Session

Room: „Genf“

RTD Thematic Areas - Summary of Issues

10:00 Durability and Life Extension Adib Becker (Nottingham University - United Kingdom), Nicola Petrone (University of Padova - Italy)	10:10 Product & System Optimisation Grant Steven (Durham University - United Kingdom), Carlo Poloni (Universita de Trieste - Italy)	10:20 Multi Physics & Analysis Mark Cross (Greenwich University - United Kingdom), Gilbert Pepper (CIMNE - Spain)	10:30 Education & Dissemination John Smart (Manchester University - United Kingdom), Jim Wood (Paisley University - United Kingdom)
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10:40 Proposed Programme of Activities & Workshops / Summary by Nigel Knowles (WS Atkins - United Kingdom)

11:15 General Discussion / Open Forum

11:30 - 12:15 Lunch

- 12:15 Transfer to Hotel Oranien (see next pages)
— transfer time from Hotel Dorint to Hotel Oranien:
- Walking ½ hour
 - Car / taxi 10 min.

Agenda – November 14, 2001*

12:00 Registration

13:00 Chairman's Welcome and Introduction

M. Zehn (FEMCOS mbH / Universität Magdeburg - Germany), German NAFEMS Steering Committee

13:15 Keynote-Paper:

Solution of Multi-Field Problems Using Finite and Boundary Element Methods

New Formulations and Application to Domains with Coupled Boundaries

L. Gaul, M. Fischer, K. Willner (Universität Stuttgart - Germany)

14:15 Modal Durability Analysis of a Passenger Cars Front Supporting Frame due to Full Vehicle Simulation Loads

H. Rieneer, W. Witteveen (Engineering Center Steyr - Austria); A. Lion (Volkswagen AG - Germany)

14:45 Coffee Break

15:45 Vibration Analysis of a Fibre Winding Machine by Means of Finite-Element-Calculations and Model Adaptation

H. Kennerknecht, A. Lenzen, F.-O. Henkel (Wölfel Beratende Ingenieure GmbH + Co. - Germany)

16:15 ABAQUS in Structural Dynamics

M. Küssner (Abacom Software GmbH - Germany)

16:35 Dynamic Analysis with PERMAS

R. Helfrich (Intes GmbH - Germany)

17:55 Functional Performance Engineering – The (R)evolution in Product Development and Engineering

- 17.15 L. Hermans, L. Meulewaeter, T. Van Langenhove (LMS International - Belgium)

17:30 NAFEMS Annual General Meeting

18:30 The German NAFEMS Steering Committee invites NAFEMS Members for Open Discussion

19:30 Beverages and snacks sponsored by



i n v e n t

Agenda – November 15, 2001*

08:30 Keynote-Paper:

Application of FE-Methods at Airbus Department Loads and Aeroelastics Germany
R. Sonder (Airbus Deutschland - Germany)

09:30 Optimisation of the Dynamic Behaviour of a Machine Tool Mounting Device

Y. Deger (Sulzer Markets and Technology Ltd. - Switzerland)

10:00 Modal Identification of Quasi-symmetric Structures with an Example Taken from Vehicle Body Models

A. von Mach (vMACH Engineering - Germany)

10:30 Coffee Break

11:10 FE Modelling of Structure Integrated Sensors and Actuators for Active Vibration Control

H. Köppe, U. Gabbert, M.W. Zehn (Universität Magdeburg / FEMCOS mbH - Germany)

11:40 The Single Step Houbolt Implicit Time Integration Method for Dynamic Contact Problems in MSC.MARC

A. de Graaf (MSC Software GmbH - Germany)

12:00 Structural Dynamics Capabilities of ANSYS

E. Wang, T. Nelson (CAD-FEM GmbH - Germany)

12:20 Lunch

14:00 Acoustic Analysis of a Harddisk Drive

M. Cetinkaya, A. J. Svobodnik (NAD GmbH & Co. KG - Austria); M. Rauer, M. Kloepzig (PM°DM GmbH - Germany)

14:30 Vibro-Acoustic Analysis of a Passenger Car

M. Danti, G. V. Nierop, D. Vigè (Centro Ricerche Fiat - Italy)

15:00 Bending Vibration Behavior of Diaphragm Couplings in Drive Lines of Turbo Engines

M. Elbs (ISMB Dautermann GmbH - Germany)

15:30 Coffee Break

16:00 Shock-analysis of a Plasma Display

S. Merkle (Merkle & Partner - Germany)

16:30 Mesh Decimation Methods for the Finite Element Method in Structural Dynamics

D. Giljohann - Germany

17:00 Discussion and Close of Seminar

M. Zehn (FEMCOS mbH / Universität Magdeburg - Germany); German NAFEMS Steering Committee

* Subject to alteration of program.

Industry Analysis Requirements Workshop

13th - 14th November 2001

Hotel Dorint, Wiesbaden, Germany

Location

Hotel Dorint Wiesbaden
 Auguste-Viktoria-Str. 15, D-65185 Wiesbaden
 Reservation (not on weekends)
Phone +49 (0) 611/3306-3306 or Phone + 49 (0) 611/33060
 Fax: + 49 (0) 611/303960
 e-mail: info.uwe194@dorint.com
 Internet: www.dorint.de/wiesbaden/

Accommodation

Please book hotel accommodation by yourself.
 Reference Code: FENET/NAFEMS
 Accommodation costs: DM 234,- per night + DM 35,- for breakfast

Attendees

The Workshop is open to all FEM users.

Costs

Every attendee (also FENET and NAFEMS member) has to pay DM 200,— directly at the hotel reception for conference costs (lunch, coffee breaks, etc.)

Seminar: FEM in Structural Dynamics

14th - 15th November 2001

Hotel Oranien, Wiesbaden, Germany

Location

Hotel Oranien Wiesbaden
 Platter Straße 2 ,D-65193 Wiesbaden, Germany
 Phone +49 - (0) 6 11 - 18 82 - 0
 Fax +49 - (0) 6 11 - 18 82 - 200
 e-mail: info@hotel-oranien.de
 Internet: www.hotel-oranien.de

Accommodation

Please book hotel accommodation by yourself.
 Reference Code: FENET/NAFEMS
 Accommodation costs: DM 175,- per night inkl. breakfast

Attendees

The Workshop is open to all FEM users.

Costs

Non NAFEMS member: 350,— EURO
Registered FENET member: free of charge
NAFEMS member: free of charge*

*Subject to availability of free member place credits (up to two place credits per year).
 Members who have already used their credits may also attend at a special rate: 300,— EURO
 We request registration for free places before October 19, 2001.
 There is no guarantee of free places after this date.

Early booking

For registration before October 12, 2001 the seminar fee is 300,— EURO. A mid-day meal and drinks in the intervals are included.

Software Exhibition

Exhibitor's fee: 250,— EURO
 plus participation fee / person
 A power point and a space with up to 2.5 m length is included in the price.

Cancellations

Cancellation of a registration up to 3 weeks before the start of the seminar is cost-free. Cancellations up to 1 week before the start of the seminar are charged at 50 % of the seminar fee.
 Non-attendance: No return of fees.
 Substitutes may attend.
 Cancellations must be in writing.

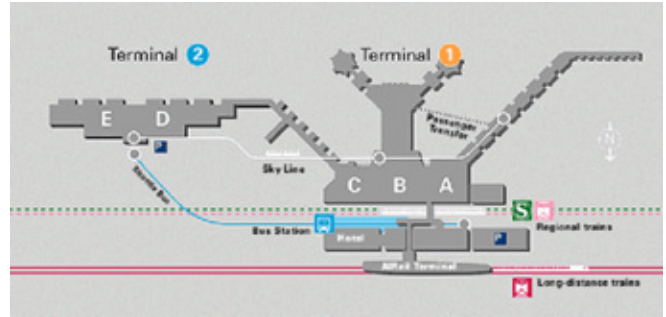
All costs + VAT if applicable

Seminar Technical Co-ordinator

Prof. Dr.-Ing. habil. Manfred Zehn
 (FEMCOS mbH / Universität Magdeburg)

Travel from Frankfurt Airport to Wiesbaden

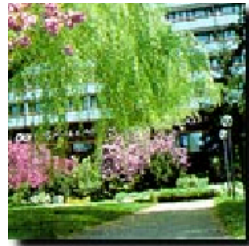
Frankfurt Airport has two passenger railway stations. Please use the **underground (regional)** station in Terminal 1, below the level 0. All local and regional trains arrive and depart here on platforms 1 to 3.



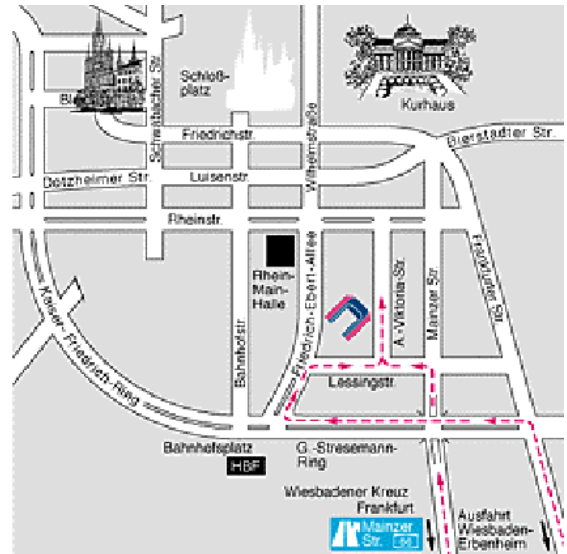
Please follow the signs **S** S-Bahn and take **S-Bahn S8 or S9** direction **Wiesbaden Main station (Hauptbahnhof)**. Travel time about 35 - 40 minutes.

Hotel Dorint

Hotel Dorint Wiesbaden
 Auguste-Viktoria-Str. 15
 D-65185 Wiesbaden

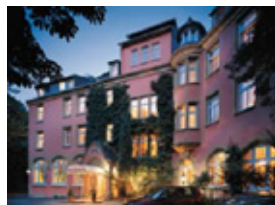


- **S-Bahn 300 m (Main Station – Hauptbahnhof HBF Bahnhofplatz)**
- BAB 1 km
- BAB 3/66: Wiesbaden-Erbenheim (Direction „Stadtmitte“)
- Airport Frankfurt Rhein/Main 25km
- IC/EC 300 m (Main Station - Hauptbahnhof)
- Congress-Center Rhein Main Hallen 200m
- 1 km to city centre



Hotel Oranien

Hotel Oranien Wiesbaden
 Platter Straße 2
 D-65193 Wiesbaden



From Wiesbaden Main Station (Hauptbahnhof) please take a Taxi to Hotel Oranien, 5 – 10 minutes / walking more than ½ hour.



I would like to register for the

Industry Analysis Requirements Workshop, 13th - 14th November 2001, Hotel Dorint, Wiesbaden, Germany

I will pay DM 200,— at the hotel Dorint reception (also FENET and NAFEMS member have to pay this conference costs)

I am registered FENET member

I am not a FENET member

I will attend the parallel Session on Industry Sector on the 13th November 2001:

Land Transport & Aerospace

Civil Construction & Marine and Offshore

Consumer Goods & Biomedical

Process and Manufacturing & Power and Pressure Systems

I will attend the parallel Session on RTD Thematic Areas on the 13th November 2001:

Durability & Life Extension

Product & System Optimisation

Multi Physics & Analysis

Education & Dissemination

I will submit a presentation on

Land Transport & Aerospace

Civil Construction & Marine and Offshore

Consumer Goods & Biomedical

Process and Manufacturing & Power and Pressure Systems

Durability & Life Extension

Product & System Optimisation

Multi Physics & Analysis

Education & Dissemination

FENET / NAFEMS Seminar: „FEM in Structural Dynamics“, November 14th - 15th, 2001, Hotel Oranien, Wiesbaden, Germany

I am NAFEMS member

I will use my free NAFEMS member place credit

I am registered FENET member

I will attend the

NAFEMS AGM (Annual General Meeting) on 14th November, 2001 at 17:30

NAFEMS Members Open Discussion

(organized by the German NAFEMS Steering Committee) on 14th November, 2001 at 18:30

I would like to register as an exhibitor at the FENET / NAFEMS Seminar: „FEM in Structural Dynamics“. Please phone us.

I am interested in **the FENET project** **further NAFEMS seminars**

Personal details

company: _____

dept.: _____

name: _____

street: _____

city: _____

postal code: _____

country: _____

phone / fax: _____

e-mail: _____

date / signature: _____