



EAEC

Issue 2 • April 2010

news

Newsletter to the Members of
EAEC Automotive Engineers' Societies

Dear President,
Dear Secretary,
Dear Members of the National EAEC Societies,
Dear Friends and Colleagues,

Now we are in April 2010 and we are also going to plan the events after the summer holidays, which can be seen on:

List of the local automotive events in Europe in the first half of 2010 and early Autumn

Please send me automotive events, which are not on the list. I will announce them in the next issues.

Please notice that the next FISITA World Congress will be held in Europe:

FISITA 2010 Congress; Budapest, Hungary, 30 May to 4 June 2010

In this Newsletter, please find more information about this event.

The Preliminary Programme and the Application Forms can be found on the congress home page:

<http://www.fisita2010.com/>

2010 will be a year of important decisions in EAEC at the EAEC Council Meeting after this congress.

We have to find a candidate for the EAEC 2013 Congress.

For the period 2011 to 2015, a EAEC President has to be elected.

For both decisions, I have sent separate e-mails and letters to all EAEC Societies. Next year we have our EAEC main event, the

EAEC 2011 Congress

14 – 16 June 2011

Valencia, SPAIN

More information please find in this Newsletter and on the homepage

<http://eaec2011.com/>

These elections will take place at the FISITA World Congress in Budapest, Hungary, 30 May to 4 June 2010, at the annual EAEC Council Meeting, probably after the FISITA Committee Meetings, on 4 June 2009, from 16:30 to 18:30. The exact date will be confirmed by the FISITA HQ

.In "The Historic Corner", I am continuing the information about electrical vehicles with a presentation of electric cars up to the turn of the century.

Brigadier ret. Prof. Günter Hohl
EAEC President
Vice President FISITA Europe

Future Main European Events

In this year the most important automotive meeting in Europe is the:



FISITA 2010 WORLD AUTOMOTIVE CONGRESS
Automobiles and Sustainable Mobility

The **Preliminary Programme** can be down loaded from the congress home page:

<http://www.fisita2010.com/>

	Sunday 30 May	Monday 31 May	Tuesday 1 June
		Room number	Room number
		1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9
08.00		Registration	A1 A4 A2 B3 C4 C2 E1 D3 SC
09.00		Opening Ceremony	A1 A4 A2 B3 C4 C2 E1 D3 SC
10.00		Plenary Lectures	A1 A4 A2 B3 C4 C2 E1 D3 SC
11.00		Exhibition Opening	PBO1 PBO1 PBO1 PBO1 PBO1 PBO1 PBO1 PBO1 PBO1
12.00		A1 F1 H1 B3 C5 C3 E3 D2 A1 F1 H1 B3 C5 C3 E3 D2	Plenary session Vehicle Electrification Plenary session Commercial Vehicles
13.00		Lunch break, exhibition and poster presentation	Lunch break, exhibition and poster presentation
14.00		A1 F1 H1 B3 C5 C3 E3 D2 SC A1 F1 H1 B3 C5 C3 E3 D2 SC	A1 A4 A2 B3 C4 C2 E1 D3 SC A1 A4 A2 B3 C4 C2 E1 D3 SC
15.00	Registration	A1 F1 H1 B3 C5 C3 E3 D2 SC PBO1 PBO1 PBO1 PBO1 PBO1 PBO1 PBO1 PBO1 PBO1	A1 A4 A2 B3 C4 C2 E1 D3 SC PBO1 PBO1 PBO1 PBO1 PBO1 PBO1 PBO1 PBO1 PBO1
16.00		Coffee break and poster presentation	Coffee break and poster presentation
17.00		A1 F1 H1 B3 C5 C3 E3 D2 SC A1 F1 H1 B3 C5 C3 E3 D2 SC	A1 A3 A2 B1 C4 F2 E1 D3 A1 A3 A2 B1 C4 F2 E1 D3
18.00	Welcome Reception	A1 F1 H1 B3 C5 C3 E3 D2 SC A1 F1 H1 B3 C5 C3 E3 D2 SC	A1 A3 A2 B1 C4 F2 E1 D3 A1 A3 A2 B1 C4 F2 E1 D3
19.00		Congress Concert	A1 A3 A2 B1 C4 F2 E1 D3 Educator's seminar


Wednesday 2 June									Thursday 3 June								Friday 4 June	
Room number									Room number									
1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8		
A1	A3	A2	B4	C1	F2	E1	D4	SC										
A1	A3	A2	B4	C1	F2	E1	D4	SC	A1	A3	B2	B4	C1	G	E2	D1		
A1	A3	A2	B4	C1	F2	E1	D4	SC	A1	A3	B2	B4	C1	G	E2	D1		
A1	A3	A2	B4	C1	F2	E1	D4	SC	A1	A3	B2	B4	C1	G	E2	D1		
PBOI	PBOI	PBOI	PBOI	PBOI	PBOI	PBOI	PBOI	PBOI	A1	A3	B2	B4	C1	G	E2	D1		
Coffee break and poster presentation									Coffee break and poster presentation									
Plenary session The Connected Vehicle - When will it be here?				Plenary session Repositioning in the Automotive World						A1	A3	B2	B4	C1	G	E2	D1	Technical and Cultural Visits
										A1	A3	B2	B4	C1	G	E2	D1	
Lunch break, exhibition and poster presentation									Closing Ceremony									
									Farewell Reception									
									Technical Visits									
A1	A3	A2	B4	C1	H2	E2	D4	SC										
A1	A3	A2	B4	C1	H2	E2	D4	SC										
A1	A3	A2	B4	C1	H2	E2	D4	SC										
PBOI	PBOI	PBOI	PBOI	PBOI	PBOI	PBOI	PBOI	PBOI										
Coffee break and poster presentation																		
A1	A3	B5	B4	C1	H2	E2	D4											
A1	A3	B5	B4	C1	H2	E2	D4											
A1	A3	B5	B4	C1	H2	E2	D4											
A1	A3	B5	B4	C1	H2	E2	D4											
Gala Dinner																		

The biennial FISITA Congresses provide excellent opportunities for automotive experts to present the latest technologies and to exchange information in the field of automotive and related industries.

In cooperation with FISITA, GTE has embarked on a number of activities to ensure that it holds a successful conference.

The goal is to make the FISITA 2010 Congress a forum for the latest achievements of the automotive industry.

The Congress Topics are:



A Environmentally friendly vehicles

- A1** IC engines: goals and developments
- A2** Tools for emission reduction, zero emission in the future
- A3** Alternative fuels and related systems (e.g. electric, hybrid, fuel cell, NCG, LCG, bio-fuel)
- A4** Sources of noise, reduction of vehicle noise



B Vehicle design and development

- B1** Styling, aerodynamics
- B2** New concepts, materials and tools in body design
- B3** Vehicle families based on platform-sharing, chassis design
- B4** Development of main parts, components and vehicle systems
- B5** Design for manufacturing, maintenance and repair
- B6** Development of vans and special vehicles (e.g. off road, mobile machinery)
- B7** Micro cars and low cost vehicles for emerging markets



C Test, simulation and calculation methods of vehicles and components

- C1** Advanced engineering technologies and tools
- C2** Methods of strength and service life estimation
- C3** Vehicle performance tests and simulation
- C4** Testing and simulation of vehicle and component dynamics
- C5** Tools and methods for whole vehicle systems engineering



D Safety on roads

- D1** Accident statistics, analysis and reconstruction techniques
- D2** Injury mechanisms, injury reduction and avoidance
- D3** Active safety issues (e.g. braking systems, steering, suspension, stability, lighting)
- D4** Passive safety issues (e.g. compatibility of vehicles, energy absorption, survival space concept, biological-load limitations, passenger retention systems)
- D5** Protection of vulnerable road users (pedestrian, bicycle)
- D6** Road infrastructure and vehicle safety



E Intelligent systems in road traffic

- E1** Intelligent vehicle systems (e.g. driver-vehicle interaction, control of vehicles, crash avoidance)
- E2** Intelligent traffic systems (e.g. GPS based systems, driver's information, lane-keeping systems, control of traffic lights vehicle to vehicle communication)
- E3** Intelligent Transportation Systems (traffic and vehicle fleet management)
- E4** Connectivity of intelligent systems, security questions



F Buses, trucks and heavy vehicles*

- F1** Development, new design, new vehicles
- F2** New propulsion system arrangements
- F3** Passenger comfort and safety
- F4** Protection of drivers and crew
- F5** Under-run protection
- F6** Fires in heavy vehicles, fire protection
- F7** Evacuation of buses, emergency exits
- F8** Performance based design of large special-vehicles for road use



G Vehicle standards, regulations, legislation

- G1** Globalization of vehicle standards and regulations
- G2** New directions in international regulations
- G3** General questions of vehicle and component approvals



H Efficient production and operation of vehicles and components

- H1** Performance/cost material selection, new materials
- H2** Modularisation in design for economical production
- H3** Life cycle concept in production, service and recycling
- H4** Supplying chain and logistics
- H5** Efficient new technologies in production
- H6** Customer based sales and services

The FISITA 2010 Congress will take place in the same area as the EAEC 2007 Congress, but with additional space for lectures and exhibition. The location is the new part of the Technical University of Budapest, near the River Danube, with excellent opportunities for Congresses.



Welcome to Budapest

The capital city of Hungary, Budapest, with a population of two million people, was created out of the unification of the separate historic towns of Buda, Pest and Óbudain in 1873. Budapest is divided by the River Danube, This majestic river has been the focus of Budapest's rich and fascinating history and vibrant culture.



Hero's square



Parliament



Chain bridge



St. Matthias Church



Holy St. Stephens Crown of the Hungarian Kings

For further information to plan your stay please visit:

www.budapestinfo.hu



www.hungarytourism.hu



The next EAEC Congress will be one year later in 2011.

EAEC 2011 Congress

The Spanish Society of Automotive Engineers (STA) will host the 13th EAEC European Automotive Congress 2011, which will take place from June 14th to June 17th 2011 in Valencia, Spain.

The theme of the Congress is:

EAEC 2011: The Automobile in the Second Decade: Sharing all Energy Solutions

The biennial EAEC Congresses provide excellent opportunities for automotive experts to present the latest findings and to exchange information in the field of automotive and related industries.

The **First Announcement and Call for Papers** is distributed and can be downloaded from the EAEC 2011 home page:

<http://eaec2011.com/>



Time Schedule

Tuesday 14 June	
09:00-09:30	Opening Ceremony
09:30-13:00	Plenary Session
13:00-14:30	Lunch Break
14:30-16:00	Technical Sessions
16:00-16:30	Coffee Break
16:30-18:00	Technical Sessions
20:00-22:00	Cultural Encounters
Wednesday 15 June	
09:00-11:00	Technical Sessions
11:00-11:30	Coffee Break
11:30-13:00	Technical Sessions
13:00-14:30	Lunch Break
14:30-16:00	Technical Sessions
16:00-16:30	Coffee Break
16:30-18:00	Technical Sessions
20:00	Congress Dinner



Thursday 16 June	
09:00-11:00	Technical Sessions
11:00-11:30	Coffee Break
11:30-13:00	Closing Plenary Session
13:00-14:30	Lunch Break
14:30-16:00	FISITA Committee
16:00-16:30	Coffee Break
16:30-18:00	EAEC Council
20:00-21:00	FISITA Meeting
22:00	Informal Dinner
Friday 17 June	
09:00-11:00	Executive FISITA
11:00-11:30	Coffee Break
11:30-13:00	Executive FISITA
13:00-14:30	Lunch Break
14:30-16:00	FISITA Council
16:00-16:30	Coffee Break
16:30-18:00	FISITA Council
20:00-22:00	FISITA Dinner

Important dates

November 2009

First Announcement

April 2010

First Call for papers

October 2010

Deadline for abstract submission

January 2011

Publication of the Preliminary Programme

Submission of Abstract

Abstracts must be submitted in English via the Congress web site, and should contain the following:

- Title of the paper
- Contact information (author/co-authors)
- Subject group
- Abstract: Clear description of the subject, main results and conclusions reached. Min. 300 – Max. 500 words.
- 3-5 key words

Papers should be original and should not have been presented elsewhere. Papers must be written and presented in English.

Oral presentations are allocated 20 minutes each.

EAEC 2009 Congress will take place at the:

Universidad Politécnica de Valencia

Auditorium: 400 people

Amphitheatre: 100 people

Simple hall: 40-45 people

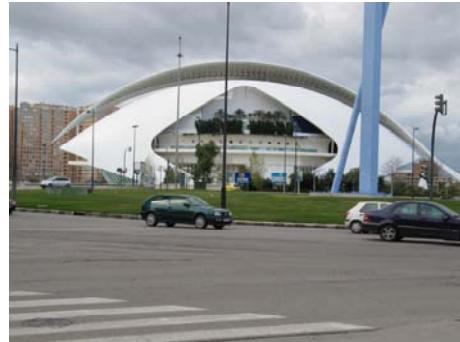
Double hall: 80-85 people



The Technical University of Valencia is located in a big campus in an American style, with all room and administration facilities for middle sized congresses. A bus transfer from the hotels will be provided,



Valencia is not only famous for its historical buildings. Some of them were shown in the last issue of the EAEC Newsletters. The River Turia overflowed the city some times. Therefore the river was detoured in a new river bed. In the former river bed the famous architect Santiago Calatrava, son of Valencia, built his “City of Art and Science“.



Post Post Congress Information

10th International Automobile Recycling Congress - IARC 2010

Basel, Switzerland
03 – 05 March 2010

Proceedings are available via:

info@icm.ch



Proceedings are available via:

iamf@geneva-palexpo.ch



Proceedings are available via:

Mr. Wing Yan Lee

Email: w.lee@theenergyexchange.co.uk



Nordic Biogas Conference

Oslo, 10 - 12 March 2010



Proceedings are available via:

henrik.lystad@avfallnorge.no

Biomass Trade & Power
11-12 Mar, 2010 - Rotterdam
Golden Tulip Rotterdam-Centre - Panorama, 16th Floor

Proceedings are available via:

hani@cmtsp.com.sg

or

admin@cmtkl.com.my



Amsterdam, The Netherlands
15 - 18, March 2010

Proceedings are available via:

info@greenpowerconferences.com



International Conference : Alternative Energies for the Automotive Industry
Poitiers Futuroscope- REPORTÉ A UNE DATE ULTÉRIEURE -
March 18&19, 2010

Proceedings are available via:

Fax: 01 41 44 93 70

Automotive Engineer is the official EAEC Magazine and the leading magazine for automotive engineers. It is published by Professional Engineering Publishing Limited, the publishing company of the Institution of Mechanical Engineers (IMechE). One page is always reserved for EAEC matters. In the issues, the EAEC Congresses and other information about EAEC were announced.



It is usual that newspapers and magazines change their appearance from time to time. This change is the fifth one in the history of *Automotive Engineer*. Some aspects of the new layout of the magazine were presented by the publisher of the *Automotive Engineer* magazine, Mr. Paul Williams at the EAEC Council Meeting in Bratislava and in the previous EAEC newsletters.

The magazine will still be published 11 times a year (July and August are a double issue) and it is free for members of the national EAEC Member Societies.

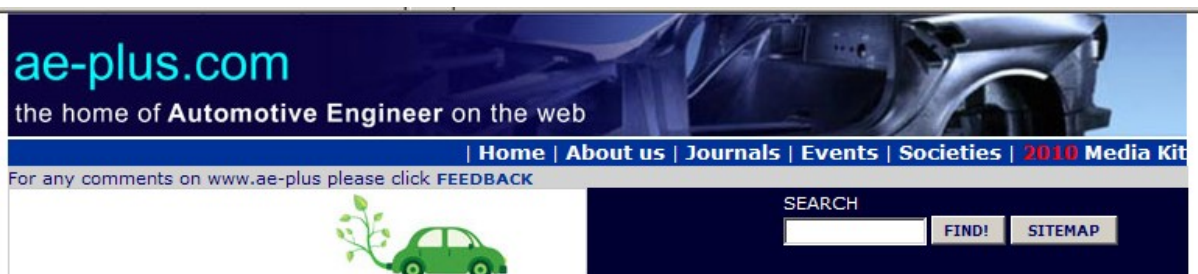
In addition to the hard copy of the *Automotive Engineer* magazine, the publisher also has a very informative home page:

<http://www.ae-plus.com>

ae-plus.com is the official website of **Automotive Engineer** magazine

ae-plus.com is for all automotive engineers, executives, researchers and enthusiasts who wish to update themselves on the industry's technology, business, news and general information. It is an English language website but it is intended by the publisher, that the articles are written in a level of English language which should be understood by all automotive engineers and other people who might be interested in automotive engineering no matter from which country they come from.

ae-plus.com will not replace **Automotive Engineer** magazine or detract from its contents, but will be complementary to the printed publication. Articles published in the magazine are often archived on this site after three months (or longer). However, **ae-plus.com** is more than an on-line archive for it will generate its own copy, with business and technology news, the key topics and car company news updated regularly.



Headline of the start page

In addition, within each Key Topics subject is a Technical Review banner which takes the visitor to another page listing refereed papers from the journals published by Professional Engineering Publishing Limited. These are updated on a regular basis. This is an invaluable resource for those interested in true academic research and is the only freely available source of this information.

Key Topics

- 🔍 Brakes, Steering, Suspension
- 🔍 Car Companies
- 🔍 Commercial Vehicles
- 🔍 Design/Bodywork
- 🔍 Drivetrain
- 🔍 Electronics
- 🔍 Emissions
- 🔍 Fuel Cells/Batteries
- 🔍 Hybrids
- 🔍 Interiors
- 🔍 Lighting
- 🔍 Manufacturing

- 🔍 Materials
 - 🔍 Motorsport
 - 🔍 Powertrain
 - 🔍 Safety
 - 🔍 Software
 - 🔍 Supply Chain
 - 🔍 Telematics
 - 🔍 Testing
 - 🔍 Vehicle Design Highlights
- ARCHIVES
- 🔍 The AE Archive
 - 🔍 Business News
 - 🔍 Technology News

The site is wholly under the direction of the **Automotive Engineer** editorial team so that the high standard of editorial integrity and quality that has become a trademark of the magazine is maintained on ae-plus.com.

In the page "**About us**" are explanations in nine languages

Entering the page **Journals** there is information about the portfolio of Journals represent the best in mechanical engineering published by the Institution of Mechanical Engineers

List of the local automotive events in Europe in the first half of 2010 and early Autumn

The list of automotive events in the first half of 2010 are based on information from the national European Societies and from information of automotive organizations I have received directly.

Should there be more events in your country which are not on the list, please let me know and will distribute the updated list again to all Member Societies directly or via the next Newsletter. Also congresses, conferences, workshops or symposia, which are held in the language of your country, will be announced and mentioned on the list. All European events will be put into the EAEC home page.

31 INTERNATIONAL VIENNA MOTOR SYMPOSIUM

Venue: Vienna, Austria
 Organizer: ÖVK
 29 – 30 April 2010
 Website: <http://www.oevk.at/>

10. Euroforum-Jahrestagung Software im Automobil

Venue: Stuttgart, Germany
 Organizer: EUROFORUM Deutschland SE
 29 – 30 April 2010
 Website: <http://www.euroforum.de>

IAMF 2010

Venue: Geneva, Switzerland

Organizer: Geneva Palexpo

9 - 10 May 2010

Website: <http://www.iamf.ch/en/>

3. Grazer Symposium Virtuelles Fahrzeug (GSVF)(AT)

Venue: Graz, Austria

Organizer: Kompetenzzentrum - Das Virtuelle Fahrzeug

Forschungsgesellschaft mbH

06. - 07. May .2010

Website: <http://vif.tugraz.at/en/calendar/events/details/article/3-grazer-symposium-virtuelles-fahrzeug-gsvf/>

Commercial Vehicle Workshop

Venue: Graz, Austria

Organizer: TU Graz; Institut für Fahrzeugtechnik

7. May 2010

Website: <http://www.ftg.tugraz.at>

AMAA 2010

Venue: Berlin, Germany

Organizer: VDI/VDE Innovation + Technik GmbH

European Technology Platform on Smart Systems Integration (EPoSS)

10 - 11 May 2010

Website: <http://www.amaa.de/>

ERTS Embedded Real Time Software and System 2010

Venue: Toulouse, France

Organizer: **AAAF**, the Association Aéronautique et Astronautique de France

SEE the French Electrical, Electronics, and
Information & Communication Technologies Society

SIA, the Société des Ingénieurs de l'Automobile (the French Society of
Automobile Engineers)

19 - 21 May 2010

Website: <http://www.erts2010.org/Default.aspx?Id=826&Idd=>

Diesel Engines, Facing the Competitive Challenges

Organizer: SIA

Venue: Rouen, France

26 - 27 May 2010

Website: http://www.sia.fr/evenement_detail_motorisations_diesel_face_au_1044.htm

FISITA 2010 World Automotive Congress

Venue: Budapest, Hungary

Organizer: GTE

30 May – 4 June 2010

Website: <http://www.fisita2010.com/>

ICME-2010

Venue: Tel-Aviv, Israel

Organizer: AEAI

2 - 3 June 2010

Website: <http://www.engineers.org.il/Index.asp?CategoryID=2299>

3rd Congress "The automobile future: Alternative powertrain systems"

Venue: Barcelona, Spain

Organizer: STA

8 - 9 June 2010

Website: <http://www.stauto.org/inicio.htm>

NGVA europe

Venue: Rome, Italy

Organizer: NVGA Europe

8 – 10 June 2010

Website: <http://www.ngv2010roma.com/en/>

5. EMISSION CONTROL 2010

Venue: Dresden

Organizer: Technical University Dresden /

10 – 11 June 2010

Website: <http://tu-dresden.de/ec>

IFAC Symposium**Advances in Automotive Control**

Venue: Munich, Germany

Organizer: VDI/VDE- Gesellschaft Mess- und Automationstechnik

Datum: 12 - 14 July 2010.

Website: <http://microsites.vdi-online.de/index.php?id=1946>

AVEC 10

Venue: Loughborough, United Kingdom

Organizer: Loughborough University

22 - 26 August 2010

Website: <http://www.lboro.ac.uk/departments/tt/avec10/>

22nd International AVL Conference 'Engine & Environment'

Venue: Graz, Austria

Organizer: AVL

9 - 10 September 2010

Website: <http://www.avl.com>

36th International Scientific Congress on Powertrain and Transport Means European Kones 2010

Venue: Warszawa – Gdynia - Jurata

Organizer: SIMP

1§September 2010

Website: <http://www.ilot.edu.pl/>

1. Györér Tribologie Tagung

Venue: Györ, Hungary

Organizer: AUDI HUNGARIA LEHRSTUHL FÜR VERBRENNUNGSMOTOREN

12 - 15 September 2010

Website: <http://www.auditanszek.hu/>

ISMA 2010

Venue: Leuven, Belgium

Organizer: K.U.Leuven Department of Mechanical Engineering, PMA

20 - 22 September 2010

Website: <http://www.isma-isaac.be/>

Aachen Body Engineering Days 2010

Venue: Aachen, Germany

Organizer: Forschungsgesellschaft Kraftfahrwesen mbH Aachen (fka)

21 - 22 September 2010

Website:

<http://www.ika.rwth-aachen.de/index-e.php>

FIVE Fires in Vehicles

Venue: Gothenborg, Sweden

Organizer: EARPA - European Automotive Research Partner Association

29 - 30 September 2010

Website: <http://www.firesinvehicles.com/>

The Aachen Colloquium "Automobile and Engine Technology"

Venue: Aachen, Germany

Organizer:

4 – 6 October 2010

Website http://www.aachener-kolloquium.de/index_e.htm

AAC 2010

Venue: : Aachen

Organizer: FEV Motorentchnik GmbH

23 – 24 November 2010

Website: <http://www.vdi.de/aac.2010>

CONGRATULATIONS



Prof. Dr. Pal (Paul) Michelberger was born in Vecses (a small town in the Budapest metropolitan area), on 4 February 1930.

From 1940 to 1948 he attended the Szent László State High School in Budapest.

After his final examination, he joined the Mechanical Engineering Faculty at the University of Technology, in Budapest.

In 1952, he received the degree of Mechanical Engineering.

He continued his academic studies and obtained his doctorate degree in technical sciences in 1961.

During his PhD studies at the Budapest University of Technology, he was an Assistant and between 1963 and 1968 he was an Associate Professor.

He was also active in the Transportation Engineering Department, where he was professor and head (1968 – 2000) as well Vice Dean and Dean (1968 – 1990). The highlight of his academic career at the university was the function of rector (1990-94).

Parallel and after his academic career, he was also active in other educational institutions. In the Gábor Dénes Technical College, he was President from 1998 to-2005. In the Budapest Technical College he had the function of a Social Senate President (2001-05) Prof. Michelberger was not only active in the scientific and educational field, he also worked during this time for the Hungarian automotive industry.

He had important positions in the Ikarus factory which produced buses and trucks at that time. He started as a design engineer (1957-60), became head of the Institute of Static Calculations (1960-63) and was chief designer (1963-64).

The Ikarus factory used his extensive experience and he then held the position of a technical advisor (1968-91), of a governing board member (1991-95) and of a technical director in charge (1966),

In addition to this, he worked also as technical advisor and sometimes as chairman of the board for some other companies like the s.Hungarian SUZUKI Factory, Knorr Bremse and others.

He had many national and international activities:

Amongst others he was member of the Hungarian Academy of Sciences, Chairman of the Committee of Mechanical Engineering and since 1983 correspondent honorary member of VDI (Verein Deutscher Ingenieure, Düsseldorf)

FISITA is very proud that Prof. Michelberger was FISITA President in the period 1992 -1994. Due to his merits for FISITA, he received in 1978 the FISITA medal. In addition to this, he is also the owner of numerous national and international awards from different organisations

Prof. Michelberger is also author of 470 publications, including 12 books in Hungarian, approx. 200 articles in German, English, French and Russian.

He was an estimated university lecturer in Hungary and outside in 23 countries abroad. In 2001, he retired as Prof. Emeritus.

The FISITA and EAEC family sincerely congratulates Prof. Michelberger.

The Historic Corner

In the second half of the 19th century, the electric cars made remarkable technical developments. At the beginning of the automobile age, the electric car “outdid” the cars driven by combustion engines.

One of the reasons for the popularity of electric cars in the last decades of the 19th and the first decade of the 20th century was the steady improvements of the electric batteries and the electric motors as well as the high torque at low revolutions. The electric equipment for the propulsion could be easily installed into the traditional form of the former horse-driven coaches. The cars with combustion engines soon lost their design of a coach and became the typical body structure of a car which we have still today. These silent electric cars became the image of an elegant means for transport of people in contrast to the clumsy and noisy “modern cars”.

Another reason for the attractiveness of electric cars was – and this is also valid today- is that they were very suitable for transport in cities and for short distances.

An important pioneer of the development of electric cars was **Gustave Trouvé** (1839–1902), when he in November 1881 demonstrated a working three-wheeled automobile at the “*International Exhibition of Electricity*” (see below) in Paris. This can be regarded as the birth of the first functioning electric car.



Gustave Trouvé (1839–1902),



Abbé Grégoire (1750 - 1831),

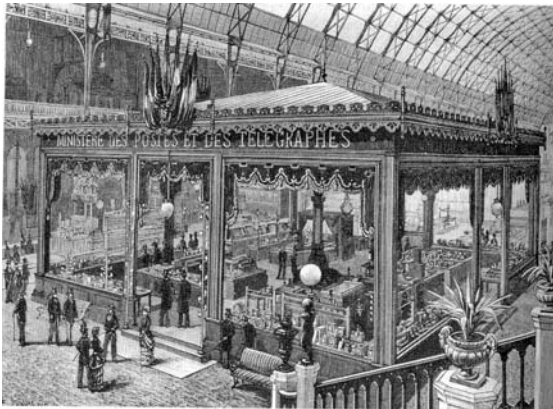
Gustave Trouvé was born in La Haye Descartes 1839, into a large family. He was sent by his parents to the College of Chinon.*)

*) Chinon is a commune in the “*Indre-et-Loire*” department in central France near to his birth town. During the Hundred Years' War the town remained faithful to Charles VII, who made lengthy stays at his court in Chinon. In 1429, Joan of Arc came here to acknowledge him.

He continued his studies at the “*Ecole des Arts et Metiers*“ *) (see below) then he moved to Paris working in the shop of a watch manufacturer.

*) At this time, the “*Ecole des Arts et Metiers*“ was a kind of college specialized in higher handicraft education. The *École Nationale Supérieure d'Arts et Métiers* or ENSAM was founded during the French Revolution 1794 by **Abbé Grégoire**, a priest and member of the National Convent. Now this school is one of the most famous French engineering institutes, and “*grand établissement*“ and a founding member of ParisTech (Paris Institute of Technology). In the terminology of nowadays, it can be regarded as a university of applied sciences.

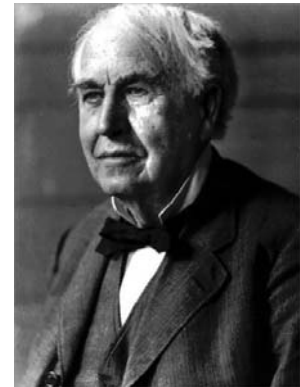
This blossoming of the electric car actually dates back to 1881, when Gustav Trouvé showcased his tri-pod, or three-wheeled vehicle, at the “*International Exhibition of Electricity in Paris*”. It was a great success. Even those who were well-read in electricity were taken by surprise, not only by the exhibition of the Trouvé electric car but also by the Siemens's electrical railway (see Volume 10/01).



First International Exhibition of Electricity
in Paris 1881



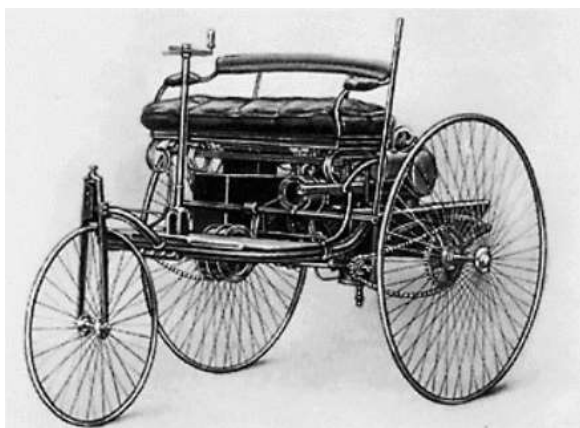
Edison's first electric
bulb



Thomas Alva Edison
1847 - 1931

The electric car of Trouvé was based, on a new technology, and was the sensation of the “*First International Exhibition of Electricity*” in Paris 1881 which showed the latest developments in electricity. One of the most prominent exhibitors was Thomas Alva Edison, who presented an incandescent lamp.*) It was one of four that were displayed at this exhibition. By the end of the exhibition, most observers believed that Edison had taken a clear lead over his rivals.

*) An incandescent lamp uses an electrically charged metal filament that glows at white heat, a typical conventional light bulb.



Electric car built by Gustave Trouvé (1881)



Gasoline car built by Carl Benz (1885)

The Trouvé car was a working three-wheeled automobile. His idea was to electrify a tricycle with two electric motors powered by six lead acid batteries. Looking at this electric vehicle, a great similarity with the first gasoline car invented by Carl Benz four years later can be observed. Perhaps Carl Benz knew about the Gustave Trouvé electric car!

Gustave Trouvé was a “multi talent”. He was an engineer, physicist and chemist. It was not unusual for this time that inventors were specialized in more disciplines. One of the inventions by Gustave Trouvé was a spillway clock *), an electric gyroscope**), a polyscope for exploring the human body***).

*) „Spillway” is a passageway for surplus water from a canal or reservoir.

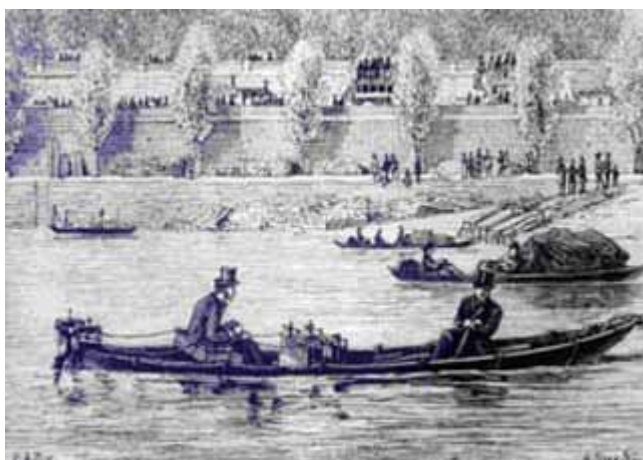
**) “Gyroscope” or gyro is a rotating mechanism in the form of a universally mounted spinning wheel that offers resistance to turns in any direction)

***) A polyscope is a device for viewing the cavities of the body

Some other inventions were an electric driven helicopter, the first outboard motor and also a telegraphy apparatus portable cell winch. In 1887, he equipped a helicopter with an electric motor he had invented, powered by batteries from the ground which flew for a relatively long time.

In 1873, he invented the first practical electrically lit endoscope.*)

*)“Endoscope” is a long slender medical instrument for examining the interior of a bodily organ or performing minor surgery)



Gustave Trouvé with his electric outboard motorboat on the River Seine.

Trouvé also invented the first outboard motorboat. It is amazing, that the world's first outboard was electric. In May 1880, Gustave Trouvé patented a small 5 kg. electric motor and described its possible applications.

At first this concerned the propulsion of boats, where Trouvé envisaged two such motors each directly driving a paddle wheel on either side of the hull. After this, he progressed to a multi-bladed propeller.

After his many inventions that are still relevant, he died in Paris in 1902 at the age of 63.

A Belgian engineer and racer **Camille Jenatzy** (1868 – 1913) was interested in the development of electric cars, which at that time had advances compared to those of gasoline or steam powered vehicles. He was nicknamed *Le Diable Rouge* ("The Red Devil") after the colour of his beard.

In order to establish himself in the emerging market for electric cars, Camille Jenatzy built a factory for electric vehicles, in which many cars and trucks were produced. He found himself in direct competition with other electric car manufacturers and competed by demonstrating publicly who could build the fastest car. To this end, he developed and then built the *La Jamais Contente*" (the "not satisfied" or "sateless" one).

The electric car designed by *Camille Jenatzy* introduced in 1899 with a new speed record of 105 km/h, attracted great attention. "*La Jamais Contente*" was the first land vehicle to achieve a speed of more than 100 km/h. The land speed record on 29 April 1899 in the Yvelines department Achères made in Paris. Today, the vehicle is exhibited at the Automobile Museum of Compiègne.



Camille Jenatzy in his record electric car



"*La Jamais Contente*" in the Automobile Museum of Compiègne

The design in the form of a torpedo was the first developed aerodynamic form of a vehicle body. Unfortunately, this concept of Jenatzy had two serious errors from the today's perspective. For one thing, the driver was sitting in the body thus increasing the profile in travelling direction and he offered a large surface for the wind. Another error were those small, thick tires, mounted free standing under the vehicle body, which also increased the air resistance.



Camille Jenatzy riding the "*La Jamais Contente*"

This electric car "*La Jamais Contente*" was driven by chains by means of two 25-kW electric motors. at the two rear wheels. The electric current of voltage 200V and 125 A, generated each of the 25 kW electric motors power. Performance and the speed of 105 km/h were very attractive for that time and would be sufficient even today, only the e-cars of today are now much lighter. The weight of the car was due to the special batteries, was with 1450 kg. relatively high

Jenatzy died in 1913 at a hunting accident.

The speed world record of Camille Jenatzy did not last very long. In 1902, the American engineer **Walter C. Baker** improved this.

He studied at the Case University of Applied Science from 1888 – 09. He began his professional employment in 1891 with the Cleveland Machine Screw Company. He then became interested in ball bearing technology and founded the American Ball Bearing Company and in 1898, the Motor Vehicle Corporation.

He produced electric cars from 1899 to 1916 in Cleveland, Ohio. The unusual suspension of these cars consisted of attaching the wheel shafts directly to the frame, on top of which was mounted a body on springs. A lever next to the driving seat controlled its speed. The Baker Electric was introduced at the National Automobile Show in 1900 and had two speeds – 9, 6 and 19,3 km/h.



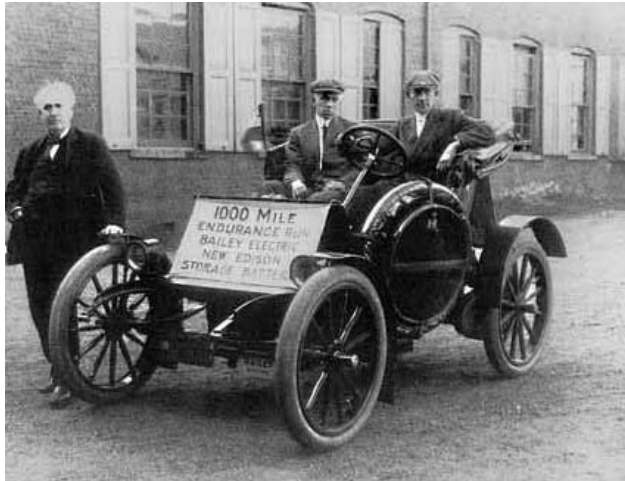
Baker Torpedo racing car model (above)

Walter C. Baker. (1868- 1955) (left)

In 1902, Walter Baker built two special torpedo-shaped race cars to demonstrate how fast an electric car could go. The first reached nearly 124 km/h at a speedway in Staten Island and then crashed into the crowd killing two spectators. Baker tried again with the “Torpedo” which attained 167 km/h at Ormond Beach, FL. At the time, it was fastest speed yet attained by man. Employing Edison batteries a standard Baker Electric set then world record by travelling 393 km on a single charge. The “Torpedo” was the equipped with first seat belt.

Thomas Edison’s first car was a 1902 Baker and other notables who owned one are “Diamond Jim” Brady *) and the King of Siam. “*The Aristocrat of Motordom*” is how Walter Baker referred to his Electric. In 1906, Baker produced 800 electric cars a year and he was the greatest producer of this type of vehicles. The advertisement below right shows a 1913 Baker Electric Victoria. In this year the Baker Company was taken over by Detroit Electric *) which became, after this fusion, one of the most important producers of electric cars.

*) More about Detroit Electric please find in the next EAEC Newsletter, Issue 3 - June 2010



Thomas Alva Edison with a Baker Electric (above)

Advertisement for Baker Electrics from 1913 (right)

Baker Electrics

Why You Get Greatest Satisfaction from a Baker

- Because the Baker is a practical, efficient, powerful automobile, possessing the luxury, dignity and appointment that can be found only in a car of the electric type.
- Because the Baker meets all the average operating requirements that could be expected from any car—ample speed, more mileage than ordinarily needed, and ability to take any hill where wheels will turn.
- Because the Baker is the most broadly useful car money can buy. It is at the disposal of a fifty-year-old child—easy to operate, simple to handle. For social uses it is a car of unquestioned elegance and style—clean, quiet, convenient. The business or professional man finds it superior to the gasoline for city calls—no transfer needed, no engine difficulties, no carburetor, no ignition, no cranking. For city use it has every desirability of a gas car, with troubles banished and true dependability added.
- And we challenge any other maker to produce a car that will travel farther on a single charge, or involve lower upkeep cost, or give better service, year in and year out, than the Baker.

THE BAKER MOTOR VEHICLE COMPANY, CLEVELAND, OHIO
Sole U.S. and Canadian Distributors

When World War I broke out, auto production ceased and Baker went on to design and produce the world’s first industrial truck (fork lift), which was, naturally, electric powered and started a whole new industry. The company still exists today as the Linde Lift Truck.

*) James Buchanan Brady (1856 –1917), also known as “Diamond Jim Brady”, was an American businessman, financier, and philanthropist of the Gilded Age.

Pleasure

—and your Reach & Long or Baker Electric is a car of Pleasure. You find pleasure in the softest of seats which you so easily reach the most comfortable and make a small car.

Pleasure in the ease of control—in the smart interior, in the genuine smooth work, and in the knowledge that your car is a Reach & Long or Baker Electric.

Baker Electrics

THE BAKER B & L COMPANY
 Cleveland, Ohio

Electric cars were especially popular with female drivers since the cars were easy to start, quiet and were not “smelly”, like the internal combustion vehicles.

Advertisement for an electric vehicle special for ladies

EAEC Member Societies

(In alphabetic order of the countries)

Austria

Austrian Society of Automotive Engineers
OEVK

Tel.: +43 1 585 27 41-0
E-mail: info@oevk.at
<http://www.oevk.at>



Belarus

Academic Automotive Association
AAA

Tel.: +375 172 92 1562
E-mail: vgorbash@bntu.by
<http://www.bntu.by>



Belgium

Union Belge des Ingenieurs de l'Automobil
UBIA

Tel.: +32(0)10 22 7664
E-mail: ubia@bskynet.by
<http://www.ubia.be>



Bulgaria

Society of Automotive Engineers in Bulgaria
SAEB

Tel.: +359 82 888450
E-mail: barzev@ru.acad.bg
<http://www.ru.acad.bg/>



Croatia

Croatian Society
for Engines and Vehicles
CroSEV

Tel.: +86 10 633 45 599
E-mail: medica@ru.rith.hr



Czech Republic

Česká Automobilová Společnost
CAS

Tel.: +420 224 352 498
E-mail: cas-sae@email.cz
<http://www.cas-sae.cz/>



Finland

Suomen Autiknillinen Litto r.y.
SATL

Tel.: +420 224 352 498
E-mail: satl@satl.fi
<http://www.satl.fi/>



France

Société des Ingénieurs de l'Automobile
SATL

Tel.: +33(0)1 41 44 93 73
E-mail: info@siafr
<http://www.sia.fr/>



Germany

VDI-Gesellschaft Fahrzeug-und Verkehrstechnik
VDI-FVT

Tel.: +49 211 6214 223
E-mail: fvt@vdi.de
<http://www.vdi.de/fvt>



Hungary

Gepipari Tudomanyos Egyesulet
GTE – Vehicle Devision

Tel.: +36 1 202 0582/0656
E-mail: mail.gte@mtesz.hu
<http://www.gte.mtesz.hu/>



Italy

Gepipari Tudomanyos Egyesulet
Associazione Tecnica dell'Automobile
ATA

Tel.: +39 011 9083 559
E-mail: ata@crf.it
<http://www.ata.it>



Latvia

Latvia Association of Automotive Engineers
LAIA

Tel.: +371 951 2364
E-mail: jpg@one.lv
<http://www.laia.lv/>



Lithuania

Lithuanian Society of Automotive Engineers
LAIS

Tel.: +370 5 2744 792
E-mail: saugirdas.pukalskas@ti.vtu.lt
<http://www.lais.lt/>



Poland

Towarzystwo Inzynierow
I Techniow Mechanikow Poliskich
SIMP

Tel.: +48 22 846 0011
E-mail: ajank@ilot.edu.pl
<http://www.ptim.simp.pl/ptim/>



Romania

Societatea Ingeerilor de Automobil din Romania
SIAR

Tel.: +40 21 316 9608
E-mail: siar@siar.ro
<http://www.siar.ro>



Russia

Association of Automotive Engineers - Russia
AAE

Tel.: +7 495 994 9915
E-mail: a.gusarov@bk.ru
<http://www.autoengineer.org/>



Sweden

Swedish Vehicular Engineering Association
SVEA

Tel.: +46 31 169 985
E-mail: info@sveafordon.com
<http://www.sveafordon.com/>



Serbia

Jugoslovensko Drustvo za motore i vozila
JUMV

Tel.: +381 11 3370 358
E-mail: dalek@jumv.org.yu
<http://jumv.celtdevel.com/sr/>



Switzerland

Society of Automotive Engineers,
Switzerland
SAE Switzerland

Tel.: +41 31 302 36 24
E-mail: daniel.christen@sae-switzerland
<http://www.sae-switzerland.ch/wEnglisch/>



Slovak Republic

Spolok Automobilovych Inzenierov
A Technikov Slovenska
SAITS

Tel.: +421 2 5729 6306
E-mail: saits@saits.bts.sk
<http://www.saits.bts.sk/>



The Netherlands

Koninklijk Instituut van Ingenieurs
KIVI NIRIA

Tel.: +31 15 269 6343
E-mail: jan.wismans@tno.nl
<http://afdelingen.kiviniria.net/voertuigtechniek>



Slovenia

Association of Mechanical Engineers and
Technicians of Slovenia – Automotive Group
AMTS-AG

Tel.: +jernerj.klemenc@fs.uni-lj.si
E-mail: ata@crf.it



United Kingdom

Institution of
Mechanical Engineers
-Automobile Section-
IMECHE

Tel.: +44 20 7973 1316
E-mail: l_mckenna@imeche.org
<http://www.imeche.org/>



Spain

Sociedad de Técnicos de Automóvilón
STA

Tel.: +34 93 233 24 47
E-mail: sta@stauto.org
<http://www.stauto.org>



Other useful links & websites:

FISITA

Office:

30 Percy Street
London, W1T 2DB
United Kingdom
Phone: +44 (0) 20 7299 6630
Fax: +44 (0) 20 7299 6633
E-mail: info@fisita.com
<http://www.fisita.com/>



EAEC**President/Office**

Brigadier ret. Prof. Günter Hohl
c/o
Austrian Society of Automotive Engineers
Elisabethstrasse 26
A-1010 Vienna
Austria
Phone: +43 1 585 27 41- 60
Fax: +43 1 585 27 41- 99
E-mail: guenter.hohl@oevk.at
<http://www.eaec.net>

**Automotive Technology
FISITA Magazine****Editor-in-Chief:**

Roland Schedel
Phone: +49 6128 853758
Fax: +49 6128 853759
Mail to Roland Schedel
<http://www.atzonline.com/>

**Automotive Engineer
EAEC Magazine****Publisher Director:**

Paul Williams
PE Publishing Ltd
1 Birdcage Walk,
London, SW1H 9JJ.
United Kingdom
Phone: +44 (0)20 7304 6805
<http://www.ae-plus.com/>

