



Research Council for Automobile Repairs

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Newsletter

www.rcar.org

June 2008

From your New Secretary-General



Hello!

This is my first opportunity to address the RCAR Network via our quarterly newsletter since being elected Secretary-General this past December, and officially taking on the position on June 1.

I am greatly honored that you, my RCAR colleagues, have chosen me for this important position.

RCAR has been blessed in the past with outstanding leadership that has played a significant role in bringing the organization to its current standing, including that of my predecessor, Michael Smith.

I believe that, together, we can develop a road map for the future that increases the influence and impact of RCAR on the industry, while building its membership's strengths.

I will be sharing more information on my ideas in this regard in the coming months. For now, welcome to the June 2008 RCAR Newsletter, which features items of interest from our colleagues around the world.

In this issue, you will learn about what happened at CESVIMAP's 25th anniversary, the Mercedes-Benz 6th Annual Bodywork Repair Meeting, and the new SEAT 2008 Ibiza. We also have an informative report from the World Congress on Neck Pain held in Los Angeles in January. From South Korea, we present an article on the recent Memorandum of Understanding between KIDI/KART and IIHS. From Centro Zaragoza in Spain, there is an interesting story about the pioneering "City Safety" low-speed collision avoidance system developed by Volvo. From CESVI Brazil come three articles on the various studies and research currently underway there. And, from KTI in Germany, we have an item about their 'fair repair' research project, which looks at the influence of inappropriate repair on the behavior of single parts, assemblies, and the entire vehicle under crash loads.

Lots of interesting reading, all associated with research into vehicle repair and safety issues! I hope you enjoy this quarter's edition!

And did you notice our new RCAR logo?

Wilf Bedard

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News From the Centres: From CESVI Spain



A tribute to the people who created CESVIMAP in 1983

Congratulations to CESVIMAP on its 25th Anniversary!

CESVIMAP celebrated its 25th anniversary with a number of events, starting off on 22 May with a dinner presided over by CESVIMAP's General Manager, Ignacio Juárez, and the Chairman of MAPFRE FAMILIAR, Antonio Huertas, who were accompanied by Antonio Estrada, CESVIMAP's first General Manager. During the event, Ignacio Juárez recalled the hard work and effort of the first CESVIMAP employees and thanked all MAPFRE's staff, clients and collaborators for their support. The second event took place on 29 May, and was supported by the entire auto after-sales sector: vehicle manufacturers, producers of repair equipment and products, the leading repair and loss adjustment companies, clients and providers, representatives of the media and local and regional authorities. In all, over 500 people attended to celebrate CESVIMAP's first quarter-century.

A special video was created for this event showing the milestones in the research centre's history: the crash test area; the starting point of CESVIMAP's research; its incorporation into RCAR; the creation of the first repair shop open to the general public in Majadahonda (Madrid); the opening of CESVI centres in other countries; the development of the Virtual Classroom; the creation of the Authorised End of Life Vehicle Treatment Centre, CESVI RECAMBIOS, etc. A new institutional video was also created and a special issue of the CESVIMAP magazine, which has been on the market for 16 years, was published, with 25,000 free copies distributed.

With 8 staff members and an initial capitalization of 30 million pesetas, CESVIMAP was set up to train the loss adjusters of the insurance company MAPFRE, which this year celebrates its 75th anniversary. In addition to its work as a specialist training centre, it also undertook research into the repair of passenger vehicles initially, and then industrial vehicles and motorcycles. Over the past 25 years, CESVIMAP has continued to progress. Its activities have been extended, centres with the same philosophy have been set up in Brazil, Mexico, Argentina, Colombia and France, and the centre's workforce has increased by 14, as has its budget, to reach this year's figure of 12.2 million euros.

From CESVI Spain



Formal unveiling of the new 2008 Ibiza

The new SEAT 2008 Ibiza is presented to European insurance companies

Within the framework of the *International Insurance Circle*, SEAT presented its new Ibiza 2008 to a number of European insurance companies at the CESVIMAP installations, just as it did previously when the Altea model was launched.

This technical event was attended by around 50 people from a number of European insurance companies, representatives of the Seat-Volkswagen-Audi-Skoda group, as well as members of RCAR research centres. The event, which was an example of the collaboration that exists between SEAT and CESVIMAP, analysed the results of the constructive and repairability studies and the features of the new Ibiza.

The company also presented the results of the crash tests performed on this model, the marketing of spare parts, the type of materials and welding techniques used in its construction and accessibility of parts.

From CESVI Spain



Participants examine a repair-in-progress

Mercedes-Benz holds its Sixth World Bodywork Repair Meeting at CESVIMAP

Over 30 people from Mercedes-Benz worldwide: Australia, Brazil, Turkey, the United States, Holland, South Africa, Canada, and South America gathered together at CESVIMAP for the company's sixth annual bodywork repair convention.

New active and passive safety systems, the brand's spare parts policy, structural bodywork innovations, window repairs, and a paint nanoseal were just some of the topics discussed during the two-day event, which took place on June 18 & 19, 2008. The activities also included a visit to the historical centre of Ávila, plus a dinner and a show.

News From the Centres: From KART, South Korea



KIDI Chairman & CEO Chae Woong Jung (left), with Dr. Adrian Lund

KIDI, KART Sign Memorandum of Understanding

KIDI & KART signed a memorandum of understanding with IIHS on June 5, 2008 at KIDI, Yuido, Seoul. Originally proposed in January 2008, the MOU is aimed at enhancing individual efforts in vehicle safety and other areas through mutual cooperation in research and development. Ceremony participants included Dr. Adrian Lund, President of IIHS; Dr. David Zuby, Senior Vice President of IIHS; Chae Woong Jung, Chairman and President of KIDI; Hyung Gyun Ryu, Vice President of KIDI; and Byung Ho Kim, Chief of KART.

Through the MOU, each institute agreed to enhance and develop their individual efforts in the following areas.

- Collaborative Research
 - High-speed crash tests to evaluate occupant injury risks
 - Low-speed crash tests to evaluate vehicle damageability and repairability issues
 - Validation of 64 km/h frontal offset crash test
 - Sled testing to evaluate neck “whiplash” injury risk
- Sharing Research Results and Information with Respect to Personal Injury and Property Damage
 - Up-to-date technical trends in the field of collision safety
 - Protocols for crash testing and the evaluation of crash test results
 - Active and passive safety research trends (ESC, etc.)
 - Make/model ratings based on test results and actual injury rates
 - Areas of concern to vehicle manufacturers
 - Statistical information about road traffic crashes
- Training & Other Areas
 - Technical training through internships at each others’ facilities
 - Technical seminars and other areas of mutual interest

KART expects to lead Korean car makers to improve vehicle safety and it brings better relationship with them through the contract with IIHS. After the ceremony, Dr. Lund and Dr. Zuby visited KART located in Icheon. They saw high speed crash test and looked around KART’s facilities. There was also a seminar on vehicle safety held in which presentations about IIHS’s latest work were made. The seminar was very helpful for each center to share their future ideas. With this MOU, each center will expand joint research on car safety, repairability and damageability in the future.

News From the Centres: From IIHS, USA



January 20 - 22, 2008, Los Angeles, CA
at
Hyatt Regency Century Plaza

World Congress on Neck Pain Held in Los Angeles

The World Congress on Neck Pain was held in Los Angeles in January 2008. Several RCAR centers helped plan this event, made plenary presentations, and presented new research. The Congress was timed to coincide with publication of the final report of the Bone and Joint Decade (2000-2010) Task Force on Neck Pain and Associated Disorders, a seven-year international effort to summarize the state of knowledge on neck pain.

Insurance Institute for Highway Safety (IIHS) president Adrian Lund chaired the Congress's scientific steering committee for the automobile safety section, which was sponsored by State Farm Insurance and The Woodbridge Group. This section featured other RCAR groups including Allianz Centrum für Technik, Folksam Insurance, Insurance Corporation for British Columbia, and The Motor Insurance Repair Research Centre (Thatcham), who informed the Congress about the nature of neck injuries from motor vehicle crashes and the efforts of insurers, researchers, and vehicle manufacturers to address this worldwide problem. Participants in this committee also reviewed abstracts describing new research, ultimately choosing 16 papers for presentation at the Congress.

State Farm Insurance was a major sponsor of the congress and, in particular, the automobile safety section. The Insurance Research Council has identified soft tissue injuries of the neck and back as the most prevalent injury, in terms of frequency and indemnity, sustained in vehicle crashes. By supporting the 1999 World Congress on Whiplash Associated Disorders and the 2008 World Congress on Neck Pain, State Farm hopes to promote the best of the evidence-based research available. State Farm also has encouraged post-congress efforts to broadly disseminate the results in hopes of the widespread adoption of the most effective findings in terms of prevention, diagnosis, and treatment of neck injuries.

Three RCAR centers presented new whiplash research. Thatcham reported on automakers' progress toward fitting vehicles with more protective seat/head restraint designs and on a new database of insurance claims created to study neck injuries. Folksam and IIHS presented analyses of the correlation between vehicle seat/head restraint ratings, based on procedures devised by the International Insurance Whiplash Prevention Group, and neck injury risk in real-world crashes of rated vehicles. The main finding by both groups was that vehicle seats with better ratings have lower neck injury risk than those rated poor. This finding was strongest for the most costly, long-term injuries (see March 2008 RCAR Newsletter).



The Bone and Joint Decade Task Force, established in 2000 and awarded official status by the United Nations and World Health Organization in 2002, reviewed 31,878 citations of neck injury-related terms in the scientific literature and closely reviewed 552 scientific papers deemed to meet rigorous requirements for inclusion in the study. Seven universal messages emerged from this work:

1. Neck pain is widespread, and most sufferers cope; about 1 in 20 become disabled.
2. Once neck pain appears, the majority of sufferers find it persistent or recurrent.
3. There usually is no single cause for neck pain; factors include physical/mental health, work, and daily activities but not usually serious injury or disease.
4. Neck pain can be classified into 4 grades: no interference with daily activity, some limitation on daily activity, pain accompanied by radiculopathy (“pinched nerve”), and pain with serious pathology (e.g., tumor, fracture, infection).
5. Most neck pain is relatively minor (grade 1 or 2) and successfully treatable with education, exercise, mobilization, manipulation, acupuncture, analgesics, massage, and/or low-level laser therapy.
6. Treatments that are unlikely to help grade 1 or 2 neck pain include collars, ultrasound, electrical or injection therapies, and radio-frequency neurotomies; surgery is not indicated, either.
7. No best treatment is applicable to all neck pain; a variety and combination of therapies may be needed and, while short episodes of care may be helpful, lengthy treatment is not associated with better results.

The task group did recognize the effectiveness of improving vehicle seat/head restraint designs. A report of this work is featured in a special issue of the journal *Spine* (Volume 33 Number 4S, supplement to February 15, 2008), available online at www.spinejournal.org.

News From the Centres: From CESVI Brazil



Gathering Data for Comparative Studies

Comparative Studies Benefit Decision-Making

Concerning both traffic accidents and factors that allow comparisons, CESVI BRAZIL is being highlighted as a source of reliable technical references for the automotive market and consumers, with a body of work extensively recognized and referenced by the press, including the following:

- **CAR Group** - Ranking that classifies vehicles according to the easiness and cost of their repair.
- **Visibility Index** - Classifies several models according to the visibility provided for the driver during driving.
- **Flood Damage Index** - Classifies the vehicles as for the vulnerability in the traffic, by flooding areas.
- **ABS Availability** - Cites which models, within the national market, have a braking system that prevents the wheels from locking during emergency braking.
- **IQA-CESVI** accredited auto repair shop - In partnership with IQA (Instituto da Qualidade Automotiva) [Automotive Quality Institute], recognizes which auto repair shops are qualified to render quality bodywork and painting services.
- **Technical Evaluation of Products and Equipment** - Identifies and discloses products for auto repair shop that really fulfills what is promised.
- **Technical Evaluation of Car Shielding Plants** - In partnership with Abrablin (Associação Brasileira de Blindagem) [Brazilian Shielding Association], this initiative recognizes which companies render good shielding services and operate in compliance with legislative requirements.
- **Technical Evaluation of Tracking Systems** - Evaluates the systems and structures of the companies that render service in this area.
- **Technical Evaluation of Risk Management** - Identifies companies deemed suitable for rendering services in this area.
- **Technical Evaluation of Security Companies** - Identifies companies deemed suitable for rendering services in this area.

Rankings of vehicles, products and services assessed can be openly checked at the research center site: www.cesvibrasil.com.br. For those who want additional information, CESVI BRAZIL is at your disposal to provide all the necessary content.

From CESVI Brazil

CESVI-Sponsored Bumper Testing Now Underway

In addition to low speed tests aimed at evaluating the damageability, and later on, reparability of vehicles, CESVI BRAZIL is also involved in tests that evaluate the behavior of specific components, such as sensors and structural parts.

In 2008, seeking to expand the availability of quality technical information available to the market, CESVI BRAZIL is launching a new series of bumper testing. For this new initiative, the research center laboratory has undergone a modernizing of equipment, allowing them to adapt to international standards used as the basis for this type of impact.

The bumper tests are intended to meet the requirements of car assembly plants and suppliers that wish to have their products evaluated. By adding this new type of test to its existing portfolio of tests, CESVI BRAZIL is hoping to resolve an important issue in the automotive market; namely, the lack of a Brazilian laboratory that can carry out low-speed impact tests to evaluate the behavior of components.

As such, once again, CESVI is fulfilling its role as a research center, and remains a strong ally of Brazilian car assembly plants in the development of increasingly better vehicles.



CESVI-BRAZIL-sponsored bumper testing

From CESVI Brazil



Representatives from CESVI Brazil, Argentina, Colombia, & Mexico

Alignment of Studies Involving CESVI Brazil, Argentina, Colombia, & Mexico

On May 12 and 13, representatives of CESVI Argentina, CESVI Colombia, CESVI Mexico and CESVI Brazil met to exchange information regarding research and studies currently underway in the four countries. The main purpose of the meeting was to standardization of data concerning the evaluation of vehicles, which should result in improvement to the quality of work overall.

The different studies presented by each center will be analyzed in comparison with the others in order to assess the feasibility of implementation in their respective countries. In addition, the possibility of standardization of some research methods will also be explored.

Another meeting will be held in the near future to better define and plan future joint activity in this regard.



CESVIBRASIL

News From the Centres: From KTI, Germany



KT/DEKRA 'Fair Repair' Vehicle Safety Project

Technical experts engaged in accident reconstruction have determined that the probability of technical defects causing an accident increases with the age of the vehicle, especially brake defects, defects at the chassis/running gear, and tire defects. Of course, such defects can be caused by inappropriate repair as well.

When it comes to new materials and production techniques of cars used by the OEMs, proper technique and quality are particularly important. To contribute in this regard, KTI/DEKRA and partners started the "fair repair" research project, dealing with the influence of inappropriate repair on the behaviour of single parts, sub assemblies, and the entire vehicle under crash loads.

Hardware tests using separated front-end longitudinals have clearly shown that there are differences in the characteristics of deformation and dissipation of energy, depending on the quality of the parts. Low-speed crash tests on front-end deformation behaviour have demonstrated that the costs of a follow-up repair involving a car that was improperly repaired will increase. High-speed frontal impact testing at 64 km/h (Euro NCAP) has shown that an unprofessional repair of a vehicle - that was involved before this repair in a pole-to-side-impact scenario – can have a negative influence on the deformation behaviour of the compartment. It is evident that the safety of such a vehicle after an inappropriate repair is not at the same high level as for the original vehicle. To see the results of inappropriate repairs on the safety of vehicles driving on our roads, the occurrence and characteristics of cars damaged after real-world accidents were analysed too.

Finally, A proposal has been made on how to cope with the problem of inappropriately-repaired modern cars to mitigate any avoid negative influences on their safety and quality.

News From the Centres: From CENTRO ZARAGOZA, Spain



Ms Pequerul, Mr. Carcaño, and Mr. Mascaraque at the Ceremony

'City Safety: A Unique System for Avoiding Low-Speed Collisions

CENTRO ZARAGOZA (CZ) made an official presentation to Spanish mass media and insurance organizations on "City Safety", the pioneering system developed by VOLVO CAR CORPORATION for avoiding collisions at low speeds.

The system has been analyzed by the international working group "P-Safe", an RCAR affiliate, with the aim of evaluating the different systems of active vehicle safety in reducing traffic accidents.

The presentation took place at CZ facilities, hosted by Ms Pequerul (Road Safety Engineer of CZ), Mr. Carcaño (General Manager of CZ), and Mr. Mascaraque (Manager of Property Damage for UNESPA, the Spanish Insurance Association). Immediately afterward, the attendees moved to the outside of the building, where Mr. Eugensson and his team of engineers from VOLVO CAR CORPORATION, together with Mr. Bistuer (Deputy Manager of CZ), gave a practical demonstration. In addition, all the attendees had the opportunity to see first-hand how the "City Safety" system operates, even to the point of accompanying the driver inside the vehicle during autonomous braking tests.

The relatively large number of insurance organizations that attended the presentation, as well as the huge turnout by members of the mass media, indicated just how much interest the presentation generated.

From CENTRO ZARAGOZA, Spain



Attendees had the opportunity to speak directly with the Swedish engineers who designed the system, and question them about what makes this system unique.

“City Safety” keeps an eye on the traffic in front with the help of a laser sensor that is built into the windscreen’s upper section at the same height as the rear view mirror. It can detect vehicles up to 6 meters in front of the car’s front bumper.

The system is programmed to react to vehicles in front that are either stationary or moving in the same direction.

On the basis of the distance to the object in front and the speed difference, the system makes 50 calculations a second to determine the braking force required to avoid a collision. If the calculated braking force exceeds a given level without the driver reacting, it interprets this as an imminent danger of a collision.

City Safety then helps to avoid or reduce the consequences of a collision by braking automatically and disabling the accelerator.

Statistics indicate that 75% of all reported collisions occur at speeds lower than 30 Km/h. According to estimates prepared by CZ, the "City Safety" system has the potential to prevent up to 230,000 car accidents annually in Spain, along with the 45,000 whiplash injuries that would normally result from those collisions. In this respect, the incorporation of the “City Safety” system into vehicles will clearly benefit all by reducing injuries, as well as eliminating a significant amount of vehicle damage and resulting repair costs.



The “City Safety” System in Action

Past & Current RCAR Secretary-General Meet in Paris, Discuss Upcoming Conference, Transition Issues



Wilf Bedard, Ken Roberts, Michael Smith

Wilf Bedard, newly-elected RCAR Secretary-General, met in Paris recently with Michael Smith, outgoing RCAR Secretary-General, and their hosts Vincent Claeys and Guillaume Langlade from CESVI France, to discuss and view hotel arrangements, meeting facilities, agenda items, and other details pertaining to the annual RCAR Conference to be held in Paris this coming September, hosted by CESVI France.

Following their Paris meeting, Michael and Wilf returned to England, where Michael hosted Wilf at his residence for three days to discuss transition issues.

One afternoon, Wilf and Michael found the time to join Ken Roberts, former Head of Research for Thatcham and longstanding member and Chair of the RCAR Steering Committee, for lunch (pictured).

Wilf expressed his gratitude to Michael for doing everything in his power to ensure a smooth transition, and would like to take this opportunity to publicly acknowledge Michael's eight years of excellent service as Secretary-General.

Fellow RCAR members will have their opportunity to thank Michael for his efforts over the years, and bid farewell to both Michael and his wife Patricia in September, as both will be attending the RCAR Conference in Paris.

Robert McDonald Selected as New Chair of RCAR Steering Committee



I am pleased to inform you that Robert McDonald has been selected by the RCAR Steering Committee as its new Chair.

Robert first participated in an RCAR meeting in Sydney in 1988, so this year marks his 20th anniversary with RCAR, making him the longest-serving RCAR participant.

Robert was one of the founding members of the RCAR Steering Committee that established the current formal RCAR structure, including the full-time role of the RCAR Secretary-General, in 1991.

Robert's company, IAG (formerly NRMA) has been a member of RCAR since 1984. Robert designed the original NRMA car theft rating system that was adopted by RCAR in 1994, and also designed the pendulum device that was used by NRMA to begin the first low-speed (15 km/hr) crash-test program in the southern hemisphere, beginning in 1989.

Robert is a professional Mechanical Engineer, and the Manager of the IAG Research Centre in Sydney, which has 17 staff, and is responsible for vehicle ratings, as well as research and car manufacturer liaison on behalf of the IAG group of companies. IAG is also a member of RCAR's IIWPG, P-Safe, and Crash Test Working Group.

Please join me in welcoming Robert to the position and wishing him all the best as he takes on these new responsibilities.

Wilf Bedard

Onward & Upward



from left: Michael Smith, Andrew Miller, Sang Woo Shim, Peter Roberts

Sang Woo Shim, (third from left above), Research Engineer, KART/KIDI, is currently at Thatcham in the UK on a 6-month internship. He has promised to submit an article on his experiences to the newsletter at the conclusion of his internship. In his absence, if you need to contact a member of KART/KIDI, you can e-mail Byung Ho Kim, Director of KART, at bhkim@kidi.or.kr, or Seung Soo Kang, Manager of Planning & Investigation, at sskang@kidi.or.kr.



Minoru Suzuki, above, President of JKC in Japan, has retired. His successor is **Naoto Ikeda**, who can be reached at naoto.ikeda@jikcenter.co.jp.



John Gane, above, Manager of Vehicle Safety Research for ICBC In Canada, who has faithfully attended every RCAR meeting with his wife Irene since 1989, has retired. Although a successor has not yet been finalized, if you need to contact a member of ICBC's Research Centre, you can e-mail Keith Jones at Keith.Jones@icbc.com.



Egon Bergman, above, RCAR representative for Folksam Sweden, has been reassigned to other duties at Folksam. **Anders Kullgren** becomes Folksam's new primary representative for RCAR activities. He can be reached at anders.kullgren@folksam.se.



Antonino Arrigo, above left, Director of CESTAR in Italy, has retired, but will be attending the September conference in Paris with his wife Giovanna, above right, to bid farewell. His successor is **Marco Castelli**, who can be reached at marco.castelli@cestar.

The RCAR Network:

AZT Germany
Centro Zaragoza Spain
Cesvimap Spain
Cesvi Argentina
Cesvi Brasil
Cesvi Colombia
Cesvi France
Cesvi Mexico
CESTAR Italy
VAT Finland
Folksam Auto Sweden
ICBC Canada
IIHS USA
KTI Germany
MPI Canada
JKC Japan
KART Korea
MRC Malaysia
FNH Norway
IAG Australia
State Farm USA
Tech-Cor USA
Thatcham UK
AXA-Winterhur Switzerland

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www.cestar.it
www.liikennevakuutuskeskus.fi
www.folksamauto.com
www.icbc.com
www.highwaysafety.org
www.k-t-i.de
www.mpi.mb.ca
www.jikencenter.co.jp
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www.e-mrc.com.my
www.fnh.no
www.nrma.com.au
www.statefarm.com
www.tech-cor.com
www.thatcham.org
www.winterhur.com

Dates for your Diary:

Annual RCAR Conference will be held in Paris, France September 14-19 2008, hosted by CESVI France.

Engineering Project Management Seminar will be held September 29-30 2008, at Greenville Technical College Greenville, S.C., hosted by SAE International, Troy, Michigan.
Details: www.sae.org

52nd Annual Conference of the Association for the Advancement of Automotive Medicine (AAAM) will be held in San Diego, California, October 5-8, 2008
Details: www.carcrash.org

Patent Law for Engineers Seminar will be held October 6, 2008, hosted by SAE International, Troy, Michigan.
Details: www.sae.org

52nd STAPP Car Crash Conference will be held in San Antonio, Texas, November 3-5, 2008
Details: www.stapp.org

NACE 2008 will be held at the Mandalay Bay Convention Centre, Las Vegas, Nevada, November 5-8, 2008
Details: www.naceexpo.com

21st International Technical Conference on the Enhanced Safety of Vehicles (ESV) will be held at the International Congress Centre, Stuttgart, Germany, June 15-18, 2009
Details: www.esv.nhtsa.dot.gov