

# PPG: Auto Glass Design Challenge

*In the sixth annual auto glass design competition organized by PPG Industries, students from the College for Creative studies in Detroit, were asked to design a mid-luxury vehicle with unique, new window systems. The three award winners were announced at the North American International Auto Show in Detroit. The winning designs are presented in this article.*

## **T**HE PPG DESIGN CHALLENGE

For the 2005 edition of the PPG Design Challenge Awards, students at Detroit's College for Creative Studies (CCS) were challenged to design a mid-luxury vehicle for a target consumer named Steven, an over-55, affluent white-collar professional needing a safe, flexible vehicle with refinement for passengers as well as utility.

The concepts were judged on their creative fulfillment of the profiled consumer's needs, demonstration of unique, new window systems from exterior and interior (occupant) perspectives with due consideration to glass material and processing characteristics, display of unique interior design features for

Mykola Kindratyshyn, 22, Detroit, won first place and a USD 1,500 scholarship for this concept of a crossover sedan-pickup truck with illuminated glass bands framing glass doors and an elongated windshield and back window, and moveable glass roof and doors



function, comfort, convenience and aesthetics, and creative use of colour and texture to enhance appeal.

CCS students who won the annual auto glass design competition sponsored by automotive glassmaker PPG Industries created concepts for a mid-luxury vehicle that best demonstrate unique window systems.

The winners of the PPG Design Challenge Awards for 2005 are:

- first place: Mykola Kindratyshyn, 22, Detroit;
- second place: Joshua Reed, 19, Detroit;
- third place: Douglas Chan, 20, Hong Kong.

PPG's Joe Stas, Vice President, automotive OEM glass, announced the winners of the company's sixth annual auto glass design competition during the North American International Auto Show in Detroit. The students received glass trophies and scholarships of USD 1,500 for first place, USD 1,000 for second place and USD 500 for third place.

During the ceremonies, John Brandmeier, PPG Global Product Marketing Manager, recognized Suzanne Bartsch, Senior Account

**Joshua Reed, 19, Detroit, received second place and a USD 1,000 scholarship for this design of a car with black glass for the hood, roof and trunk, and triangular-shaped door glass contrasting with an orange body**

Manager, and Amy McFarren, Senior Manager, Automotive Consulting, J.D. Power and Associates, for participating in the PPG Design Challenge. J.D. Power and Associates has cooperated with PPG since the competition's inception, and each year J.D. Power and Associates' automotive industry experts define the design parameters.

Keynote speaker Scott Anderson, designer, product design office, DaimlerChrysler Corp., and a CCS graduate, told how automotive design goes beyond the visual to be more about the customer experience.

Anderson was one of the automotive industry designers who were the competition's judges. The other judges were Melvin Betancourt, Design Manager, Vehicle Personalization, Speciality Vehicle Team and SEMA (Speciality Equipment Market Association) Program, Ford Motor Co., a CCS graduate; Bob Boniface, Design Director, General Motors Corp., a CCS graduate; and Ken Lee, Designer, Nissan Design America.

Nine transportation design sophomores presented concepts supported by artwork and clay models for judging.

## FIRST PLACE: MYKOLA KINDRATYSHYN

In his first-place concept, Kindratyshyn uses glass for form, function, flexibility and fun to create a vehicle he described as having "the elegant styling cues of a sedan and the utility and capability of a pickup truck."

Kindratyshyn elongates the windshield, with the back window echoing it. Glass roof panels and three-panel glass doors are moveable to transform the vehicle "from formal luxury to windy fun in seconds." Glass doors fit inside an indented frame and give the sides transparency. Made of three glass sections, each door can be lowered to hip



level to allow occupants to enjoy the breeze, "creating a fun experience for an outdoors enthusiast," Kindratyshyn said. He suspends the doors on arms to allow them to move upward for passenger entry and downward to close into place.

"The main design feature is the use of glowing glass throughout the exterior," he noted. "Essentially, every source of light on the exterior of the car is incorporated into the glass bands. The glowing bands on the sides of the vehicle highlight the daylight opening and function as dramatic turn signals. Likewise, the bands surrounding the windshield and back window act as headlights and taillights. Such use of light not only adds safety by making the vehicle more visible at night, but also creates a unique, sophisticated, dramatic style by attracting attention to itself and the owner."

According to Nissan's Ken Lee, Kindratyshyn's concept was well thought-out.

"This was the most complete and thorough presentation, with excellent sketches and model," Lee said. "His vehicle has good proportions and stance."

"His use of glass reinforced his concept which allowed his customer, who was enthusiastic about the outdoors, to enjoy the scenery at all times," DaimlerChrysler's Anderson said, adding that lighting the glass gave it a night as well as day signature.

### SECOND PLACE: JOSHUA REED

Reed captured second place with his design for a bold car having striking black glass skimming across the back and top and down the front, contrasting with a bright orange body.

Reed's glass carries a triangular theme in the windshield, side doors and back. The massive windshield curves over the front bumper, bending down on the sides almost at a right angle, forming a glass triangle on each side. Glass spans the roof to meet the door window glass that triangulates down to a point.

"I wanted to visually increase the amount of visibility in the car," Reed explained. "I moved the A pillar back and made the B pillar larger so that it could support more glass as it wrapped around the car. This allowed me to replace the hood, roof and trunk with glass and still meet the needed safety measures."

The judges liked the unique proportions of

Reed's design. "It shows the designer's willingness to be adventurous with new themes," according to Lee.

DaimlerChrysler's Anderson liked Reed's placement of glass over the centre of the car to give it an interesting proportion. Anderson noted that Reed took advantage of the importance of glass in the design with the vehicle's cab-forward proportion.

### THIRD PLACE: DOUGLAS CHAN

Chan's third-place concept uses bold silhouettes of glass for drama, function, safety and light in a station-wagon-like vehicle with an un-station-wagon-like fastback.

Inspired by the honeycomb pattern, he places hexagonal-shaped glass doors deep inside doorframes. The sharply raked windshield comes to a point on the bottom and top edges, nearly meeting the back window. Completing the car are the hexagonal massive curved back window and perpendicular glass panel that enclose the trunk.

"I went on to the direction of developing a car that looks safe and also is structurally safe with the addition of all the glass," Chan said. "I also looked into how to integrate the glass as a safety feature. Therefore it would be used more than just to look through where it would serve a major purpose of the design."

Chan chose the honeycomb as his theme because of its high strength-to-weight ratio, he said.

"By using the honeycomb structure, I was able to place more glass on the car and balance the weight without compromising structural integrity," Chan said. "The huge amounts of glass give the passengers a more open feeling, yet the glass is enclosed in a frame so people inside can feel safe and secure."

He takes inspiration from the lobster in designing and lighting "multiple cutlines" on the back window and trunk glass, which are used as brake lights and shaped to evoke the look of the lobster's shell. The lights indicate braking pressure and are placed for other drivers to see easily.

Shining light on the edges of the glass gives it a glow, while maintaining its transparency, according to Chan. "This feature fulfills the criteria of finding a new way to use glass without altering its properties."



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## THE COLLEGE FOR CREATIVE STUDIES

The College for Creative Studies, a private, fully accredited, four-year college, offers Bachelor of Fine Arts degrees in animation and digital media, art education, communication design, crafts, fine arts, illustration, industrial design, interior design and photography. The college also offers non-credit courses in the visual arts through its Continuing Education programmes

According to Nissan's Lee, Chan's "overall design is modern and interesting. The creative use of edge-lit lighting on the glass is particularly clever and well integrated with the vehicle."

Anderson recommended Chan for his clamshell-like front-end design that was made possible through the use of hexagonal structure. "This allowed the bumper and hood to appear to float, making it a unique design."

## PPG INDUSTRIES

PPG Industries is North America's largest manufacturer of automotive glass for original-equipment and replacement applications, the world's leading maker of transportation coatings, and also a global supplier of chemicals and fiberglass. The company has been an official sponsor of the North American International Auto Show for 12 years.

PPG is the only manufacturer supplying glass, coatings, fiber glass and chemicals to the global automotive market, with its products comprising more than 90 per cent of a vehicle's exterior surface.

Based in Pittsburgh, with an automotive technical centre in Troy, Michigan, as well as other automotive customer technical support facilities in the United States, Europe and Asia, PPG operates 108 manufacturing facilities and equity affiliates in more than 20 countries. Sales in 2005 were USD 10.2 billion.

**Douglas Chan, 20, Hong Kong, earned third place and a USD 500 scholarship for this vehicle with hexagonal glass doors, back window and sharply raked windshield, with edge lighting for drama and safety**

and opportunities for youth through Community Arts Partnerships.

## J.D. POWER AND ASSOCIATES

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