

# 2010 Simulated Car Racing Championship

2010 Genetic and Evolutionary Computation Conference  
Wednesday – Sunday July 7 –11, 2010 Portland, Oregon, USA



We are pleased to announce the start of the 2010 Simulated Car Racing Championship, an event joining three simulated car racing competitions held at:

- \* ACM GECCO-2010, Portland (USA), July 7th - 11th
- \* IEEE WCCI-2010, Barcelona (Spain), July 18th - July 23rd
- \* IEEE CIG-2010, Copenhagen (Denmark), August 18th - August 21st

## The Goal

The goal of the championship is to design a controller for a racing car that will compete on a set of unknown tracks first alone (against the clock) and then against other drivers. The controllers perceive the racing environment through a number of sensors that describe the relevant features of the car surroundings, of the car state, and the game state. The controller can perform the typical driving actions (clutch, changing gear, accelerate, break, steering the wheel, etc.)

## New Features

The 2010 Championship introduces several innovations in comparison with the 2009 edition:

- \* the range of the proximity sensors have been increased from 100m to 200m
- \* the position of the range finders can be customized by users
- \* new focus sensor provides accurate sensing of the road ahead
- \* noise is introduced to range and proximity sensors
- \* drivers now control the clutch
- \* a new warm-up stage allows drivers to learn about track properties before the qualifying

Previous competitors can enter the competition with only small additional effort since the 2010 APIs are very similar to the ones used for the 2009 edition.

## Rules and Regulations

The championship consists of nine races on nine different tracks divided into three legs, one for each conference, involving three Grand Prix competitions each. Teams will be allowed to submit a different driver to each leg. Each Grand Prix consists of three stages: the warm-up, the qualifying, and the race.

During the warm-up, drivers race alone to collect useful information about the tracks and tune their behaviors. During the qualifying, drivers race alone on the tracks; the eight fastest drivers participate in the main race. The main event consists of eight three lap races on each of the three tracks. At the end of each race, the drivers are scored using the F1 system. The driver performing the fastest lap in the race will get two additional points. The driver completing the race with the smallest amount of damage will also get two extra points.

As in the previous edition, the tracks used in each leg are unknown to the competitors.

## Championship Legs

Each leg will focus on a specific track type and will involve a different number of laps:

- \* American Leg (GECCO-2010), three motor speedways and 50 laps.
- \* Formula Leg (WCCI-2010), three technical (F1-like) tracks and 15 laps.
- \* Dusty Leg (CIG-2010), three dirt tracks (non-asphalt stretches and bumps) and 25 laps.

## Important Dates

American Leg (GECCO-2010):	Submission deadline June 27th 2010 Conference: July 7th-11th 2010
Formula Leg (WCCI-2010):	Submission deadline: July 7th 2010 Conference: July 18th-23rd 2010
Dusty Leg (CIG-2010):	Submission deadline: August 8th 2010 Conference: August 18th-21st 2010

## Competition Software

The competition software, including servers for Linux & Windows, and C++ and Java clients, can be downloaded from the competition webpage: [http://cig.dei.polimi.it/?page\\_id=134](http://cig.dei.polimi.it/?page_id=134)

For inquiries send an email to [scr2010@sigevolution.org](mailto:scr2010@sigevolution.org)

## Organizing Committee

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