

dr. Godfried-Willem Raes

post doctoral researcher

Research area: the design and development of new tools for musical expression

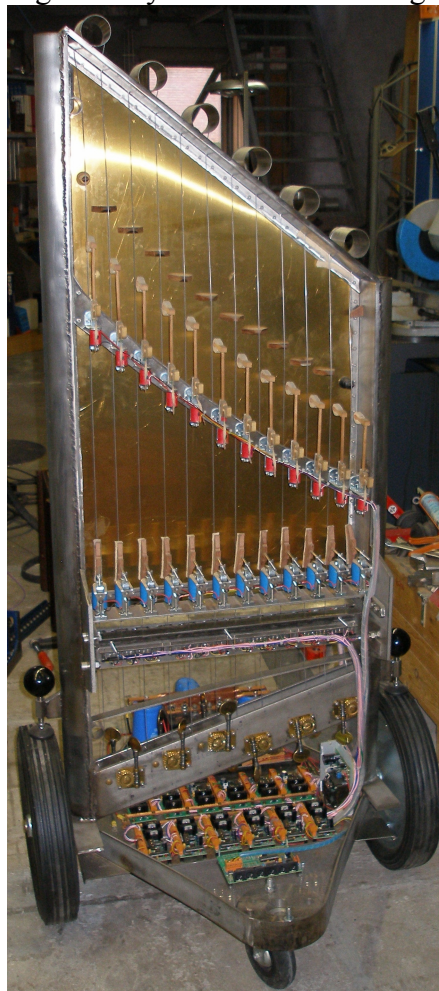
- automated musical instruments with extended possibilities
 - microtonal acoustic instruments and robots
- human input control devices
 - sonar based wireless gesture sensing devices
 - microwave radar based wireless gesture sensing devices
- Interactive music composition software

Achievements:

- the M&M robot orchestra, now consisting of 43 fully programmable acoustic instruments
- the HoloSound gesture capture system (sonar based, tridimensional)
- the Picradar gesture capture system (10GHz radar based system with midi compatible output)
- the Quadrada gesture capture system (2.8GHz radar based, tridimensional)
- the Tetrada gesture capture system (24GHz radar based, tridimensional)
- 'GMT', a real time software platform for interactive musical composition (open source) on the Windows platform.

Under research and construction now:

- <Aeio> robot: an electromagnetically driven bowed string instrument.



- <Bomi> robot: a small pipe organ with individual aftertouch control of the pipes



<Fa> robot: an automated bassoon

- 77GHz radar gesture sensing system with very high speed and resolution



Relevant articles and papers available online:

“Expression control in automated musical instruments”

http://www.logosfoundation.org/g_texts/expression-control.html

“An Invisible instrument” http://www.logosfoundation.org/g_texts/invisins.html

“Gesture controlled instruments” <http://www.logosfoundation.org/ii/gesture-instrument.html>

“Quadrada” <http://www.logosfoundation.org/ii/quadrada.html>

“Picradar” <http://www.logosfoundation.org/ii/picradar.html>

“Distance Sensing Controllers” http://www.logosfoundation.org/ii/distance_sensing.html

“Acceleration sensing controllers” http://www.logosfoundation.org/ii/acceleration_sensing.html

“Microwave gesture sensing” <http://www.logosfoundation.org/ii/dopplerFMradar.html>

“Composers guide to the M&M robot orchestra”

http://www.logosfoundation.org/instrum_gwr/manual.html

Ph.D. Students:

Laura Maes, Troy Rogers, Florian Heyerick, Hans Roels