

## 2<sup>nd</sup> International Confluence Competition

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## Results [\(details\)](#)

### main track (0% completed)

tool	score		yes	no	maybe	left
ACP	<input type="text"/>	0/148	0	0	0	148
CSI	<input type="text"/>	0/148	0	0	0	148
saigawa	<input type="text"/>	0/148	0	0	0	148

### certified track (0% completed)

tool	score		yes	no	maybe	left
CeTA	<input type="text"/>	0/65	0	0	0	65

### Cops #1

```
(VAR x y)
(RULES
  f(x,y) -> x
  f(x,y) -> f(x,g(y))
  g(x) -> h(x)
  F(g(x),x) -> F(x,g(x))
  F(h(x),x) -> F(x,h(x))
)
(COMMENT Example 6 of \cite{AT97})
```

ACP: *waiting ...* CSI: *waiting ...* saigawa: *waiting ...*

# Overview

- CoCo 2013
- Tools
- Cops
- StarExec
- Award Ceremony

# CoCo 2013

## Facts

- 2<sup>nd</sup> International Confluence Competition
- live
- two categories
  - main track: (dis)prove confluence of first-order TRS
  - certified track: certify confluence (dis)proof



# CoCo 2013

## Facts

- 2<sup>nd</sup> International Confluence Competition
- live
- two categories
  - main track: (dis)prove confluence of first-order TRS
  - certified track: certify confluence (dis)proof
- first competition powered by StarExec



# Tools

## ACP (Tohoku University)

- Takahito Aoto & Yoshihito Toyama
- since 2009 (current version: 0.40)
- Standard ML
- new: strongly weight preserving root-E-closed, weakly-non-overlapping non-collapsing shallow, tree automata

# Tools

## ACP (Tohoku University)

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## CSI (University of Innsbruck)

- Harald Zankl & Bertram Felgenhauer & Benjamin Höller & Aart Middeldorp
- since 2011 (current version: 0.3)
- OCaml
- new: Klein-Hirokawa 2012

# Tools

## saigawa (JAIST)

- Nao Hirokawa & Dominik Klein
- since 2011 (current version: 1.5)
- OCaml
- planned: commutation criterion



# Tools & Certifiers

## saigawa (JAIST)

- Nao Hirokawa & Dominik Klein
- since 2011 (current version: 1.5)
- OCaml
- planned: commutation criterion

## CeTA (University of Innsbruck)

- Julian Nagele & René Thiemann
- since 2009 (termination), since 2012 (confluence)
- current version: 2.10
- Isabelle/HOL
- new: non-confluence (tcap), strongly-closedness

# Cops

## Cops

- Confluence problems
- Search & Query Interface
- Submission & Download Interface
- Problem Selection

### 46.trs

```

1 (VAR x)
2 (RULES
3   F(x,x) -> A
4   F(x,G(x)) -> B
5   C -> G(C)
6 )
7 (COMMENT from p.813 of \cite{Hue80})
8
```

tags: [non\\_confluent](#)   [non\\_left\\_linear](#)   [non\\_linear](#)   [locally\\_confluent](#)  
[non\\_orthogonal](#)   [non\\_terminating](#)   [non\\_ground](#)

# StarExec

## Hardware

- now: 32 nodes (2 quad-core, 2.40 GHz, 128 GB)
- 2014: 150 nodes

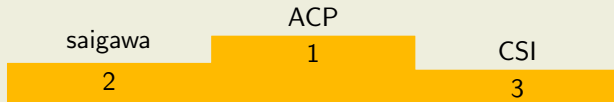


## Software

- tool/benchmark submission/management
- tool execution
- queue management (Coco queue has 4 nodes)
- (some) statistics

# And the winner was

2012 (125 problems)



# And the winner was

## 2012 (125 problems)

	saigawa	ACP	CSI
	2	1	3
yes	71	78	67
no	18	18	21
time	1310	222	537

# And the winner is

## 2012 (125 problems)

	saigawa	ACP	CSI
	2	1	3
yes	71	78	67
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time	1310	222	537

## 2013 (148 problems)

	CSI	ACP	saigawa
	2	1	3

# And the winner is

## 2012 (125 problems)

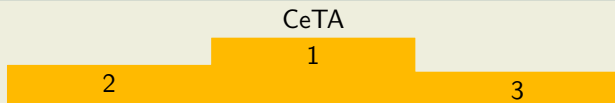
	saigawa	ACP	CSI
	2	1	3
yes	71	78	67
no	18	18	21
time	1310	222	537

## 2013 (148 problems)

	CSI	ACP	saigawa
	2	1	3
yes	85	93	79
no	28	31	28
time	626	587	1329

# And the winner was

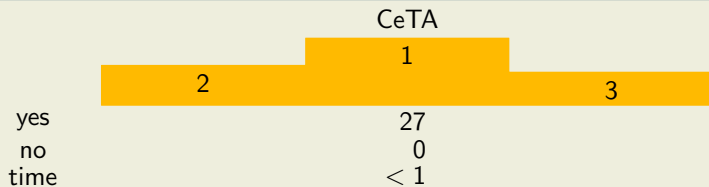
2012 (27 problems)





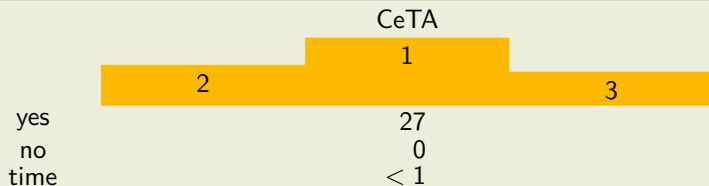
## And the winner was

2012 (27 problems)

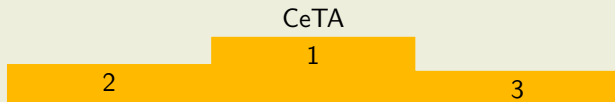


# And the winner is

## 2012 (27 problems)

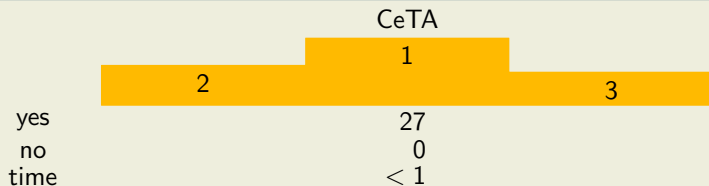


## 2013 (65 problems)



# And the winner is

## 2012 (27 problems)



## 2013 (65 problems)

