



# 11th International School on Rewriting - ISR 2019

## July 1-6, 2019



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# Foreword

We are pleased to welcome you at ISR 2019 in Paris !

We hope that you will enjoy the lectures, the weather, and Paris.

This booklet summarizes all the information you need to orient yourself during the school. Feel free to ask anyone of us in case you don't find the necessary information, but make sure to check the FAQ at the end of the document first.

**Our event** is not the only one organized at MINES ParisTech in early July. **On Tuesday, July 2nd** there will be a large research event that will occupy the entire ground floor of the Vendôme wing (V-rooms). They will assemble and disassemble a large tent in July 1st and 3rd, respectively, and there will be a bag check at the entrance on July 2.

More critically, some students are taking oral tests for a stressful entrance exam in all the rooms of the Luxembourg wing (L-rooms), all week long. Although ISR 2019 is located in the Vendôme wing, please have consideration for them.

The organizers,  
Frédéric, Olivier and Claire

# **Short Talks Session**

## **Monday 1st July**

**18:00** Fast Higher-order Term Rewriting for Model Checking purposes,  
*Rick Erkens, Technical University of Eindhoven, Netherlands*

**18:05** What is the right structural congruence for (R)CCS?  
*Clément Aubert, Augusta University, USA*

**18:10** Rewriting types,  
*Michał Gajda, Migamake Pte Ltd, Singapore*

**18:15** Termination with Dependent Types,  
*Guillaume Genestier, ENS Paris-Saclay, France*

**18:20** Encoding Logic in the Logical Framework using Rewriting,  
*Gaspard Férey, Mines ParisTech, France*

# Monday 07/01

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| <b>8:15 – 8:45, Registration, Mines' Front Desk</b>  |  |
| <b>8:15– 9:00, Coffee &amp; welcome word, V334 room</b>  |  |
| <b>Advanced Track<br/>V334</b>   | <b>Basic Track<br/>V005a</b>   |
| <b>9:00 – 10:30</b><br><i>R. Echahed</i><br>Introduction to Graph Rewriting 1                                      | <b>9:00 – 10:30</b><br><i>A. Middeldorp &amp; S. Winkler</i><br>Rewriting  |
| <b>10:30 – 11:00, Coffee Break, V334</b>   |  |
| <b>11:00 – 12:30</b><br><i>C. Lynch</i><br>Rewriting in Theorem Proving 1  | <b>11:00 – 12:30</b><br><i>A. Middeldorp &amp; S. Winkler</i><br>Rewriting |
| <b>12:30 – 14:00 Lunch Break</b>   |  |
| <b>14:00 – 15:30</b><br><i>Ştefan Ciobăcă</i><br>Reachability in Logically Constrained Term<br>Rewriting Systems 1 | <b>14:00 – 15:30</b><br><i>A. Middeldorp &amp; S. Winkler</i><br>Rewriting |
| <b>15:30 – 16:00, Coffee Break, V334</b>   |  |
| <b>16:00 – 17:30</b><br><i>H. Zantema</i><br>Infinitary Rewriting and Streams 1                                    | <b>16:00 – 17:30</b><br><i>A. Middeldorp &amp; S. Winkler</i><br>Rewriting |
| <b>17:30 – 18:00, Break, V334</b>  |  |
| <b>18:00 – 18:30, Short Talks, V334</b>  |  |
| <b>18:30 – 19:30 Cocktail</b>  |  |

# Tuesday 07/02

| 8:30 – 9:00, Coffee V334   |  |
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| <b>Advanced Track<br/>V334</b>   | <b>Basic Track<br/>V005a</b>   |
| <b>9:00 – 10:30</b><br><i>R. Echahed</i><br>Introduction to Graph Rewriting 2                                      | <b>9:00 – 10:30</b><br><i>A. Middeldorp &amp; S. Winkler</i><br>Rewriting  |
| 10:30 – 11:00, Coffee Break, V334  |  |
| <b>11:00 – 12:30</b><br><i>C. Lynch</i><br>Rewriting in Theorem Proving 2  | <b>11:00 – 12:30</b><br><i>A. Middeldorp &amp; S. Winkler</i><br>Rewriting |
| 12:30 – 14:00 Lunch Break  |  |
| <b>14:00 – 15:30</b><br><i>Ştefan Ciobăcă</i><br>Reachability in Logically Constrained Term<br>Rewriting Systems 2 | <b>14:00 – 15:30</b><br><i>A. Middeldorp &amp; S. Winkler</i><br>Rewriting |
| 15:30 – 16:00, Coffee Break, V334  |  |
| <b>16:00 – 17:30</b><br><i>H. Zantema</i><br>Infinitary Rewriting and Streams 2                                    | <b>16:00 – 17:30</b><br><i>A. Middeldorp &amp; S. Winkler</i><br>Rewriting |
| 17:30 – 18:00, Break, V334   |  |
| <b>18:00 – 19:30, V334</b><br><b>Deduction Modulo Rewriting 1 (<i>Gilles Dowek</i>)</b>                            |  |

# Wednesday 07/03

| 8:30 – 9:00, Coffee V334   |  |
|--|--|
| Advanced Track<br>V334   | Basic Track<br>V005a   |
| <b>9:00 – 10:30</b><br><i>J. Krivine</i><br>Stochastic Graph Rewriting and<br>(executable) Knowledge Representation for<br>Molecular Biology 1 | <b>9:00 – 10:30</b><br><i>A. Middeldorp &amp; S. Winkler</i><br>Rewriting  |
| 10:30 – 11:00, Coffee Break, V334  |  |
| <b>11:00 – 12:30</b><br><i>Y. Lafont</i><br>Homotopy and Homology of Rewriting 1   | <b>11:00 – 12:30</b><br><i>A. Middeldorp &amp; S. Winkler</i><br>Rewriting |
| 12:30 – 14:00 Lunch Break  |  |
| <b>14:00 – 15:30</b><br><i>C. Kop</i><br>Higher-Order Term Rewriting 1   | <b>14:00 – 15:30</b><br><i>A. Middeldorp &amp; S. Winkler</i><br>Rewriting |
| 15:30 – 16:00, Coffee Break and Poster Session, V334   |  |
| <b>16:00 – 17:30</b><br>Social Event   |  |
| <b>20:00 Dinner</b>  |  |

# Thursday 07/04

| 8:30 – 9:00, Coffee in front of V106   |  |
|--|--|
| <b>Advanced Track<br/>V106A</b>  | <b>Basic Track<br/>V106B</b>   |
| <b>9:00 – 10:30</b><br><i>J. Krivine</i><br>Stochastic Graph Rewriting and<br>(executable) Knowledge Representation for<br>Molecular Biology 2 | <b>9:00 – 10:30</b><br><i>A. Middeldorp &amp; S. Winkler</i><br>Rewriting  |
| 10:30 – 11:00, Coffee Break in front of V106   |  |
| <b>11:00 – 12:30</b><br><i>Y. Lafont</i><br>Homotopy and Homology of Rewriting 2   | <b>11:00 – 12:30</b><br><i>A. Middeldorp &amp; S. Winkler</i><br>Rewriting |
| 12:30 – 14:00 Lunch Break  |  |
| <b>14:00 – 15:30</b><br><i>C. Kop</i><br>Higher-Order Term Rewriting 2   | <b>14:00 – 15:30</b><br><i>A. Middeldorp &amp; S. Winkler</i><br>Rewriting |
| 15:30 – 16:00, Coffee Break  |  |
| <b>16:00 – 17:30</b><br><i>G. Dowek</i><br>Deduction Modulo Rewriting 2  | <b>16:00 – 17:30</b><br><i>A. Middeldorp &amp; S. Winkler</i><br>Rewriting |
| 17:30 – 18:00, Break   |  |
| <b>18:00 – 19:30, Formal specification and analysis of real-time systems<br/>in Real-Time Maude 1 (<i>Peter Csaba Ölveczky</i>), V106</b>      |  |

# Friday 07/05

| 8:30 – 9:00, Coffee in front of V106   |  |
|--|--|
| Advanced Track<br>V106A  | Basic Track<br>V106B   |
| <b>9:00 – 10:30</b><br><i>P. Ölveczky</i><br>Formal Specification and Analysis of Real-Time Systems in Real-Time Maude 2 | <b>9:00 – 10:30</b><br><i>A. Middeldorp &amp; S. Winkler</i><br>Rewriting  |
| 10:30 – 11:00, Coffee Break in front of V106   |  |
| <b>11:00 – 12:30</b><br><i>A. Kissinger</i><br>Picturing Quantum Processes 1   | <b>11:00 – 12:30</b><br><i>A. Middeldorp &amp; S. Winkler</i><br>Rewriting |
| 12:30 – 14:00 Lunch Break  |  |
| <b>14:00 – 15:30</b><br><i>M. Avanzini</i><br>Automated Complexity Analysis of Term Rewrite Systems 1                    | <b>14:00 – 15:30</b><br><i>Femke van Raamsdonk</i><br>$\lambda$ -calculus  |
| 15:30 – 16:00, Coffee Break  |  |
| <b>16:00 – 17:30</b><br><i>F. Jacquemard</i><br>Rewriting and Music 1  | <b>16:00 – 17:30</b><br><i>Femke van Raamsdonk</i><br>$\lambda$ -calculus  |

# Saturday 07/06

| 9:00 – 9:15, Coffee in front of V106  |   |
|---|---|
| <b>Advanced Track<br/>V106A</b>   | <b>Basic Track<br/>V106B</b>  |
| <b>9:15 – 10:45</b><br><i>A. Kissinger</i><br>Picturing Quantum Processes 2                           | <b>9:15 – 10:45</b><br>Exam on rewriting (optional)                       |
| 10:45 – 11:00, Coffee Break in front of V106  |   |
| <b>11:00 – 12:30</b><br><i>M. Avanzini</i><br>Automated Complexity Analysis of Term Rewrite Systems 2 | <b>11:00 – 12:30</b><br><i>Femke van Raamsdonk</i><br>$\lambda$ -calculus |
| 12:30 – 14:00 Lunch Break   |   |
| <b>14:00 – 15:30</b><br><i>F. Jacquemard</i><br>Rewriting and Music 2                                 | <b>16:00 – 17:30</b><br><i>Femke van Raamsdonk</i><br>$\lambda$ -calculus |
| 15:30 – 16:00, Coffee Break, V334   |   |
| END OF ISR  |   |



## WIFI

Name\_wifi = ISR2019

Password

## LUNCH

You are **free** to have lunch anywhere around the school. There are numerous cheap, lovely and tasty places around.



We also propose you a **student restaurant**, it is situated 5 minutes by foot from the school : after exiting the school, turn right and just go straight on Boulevard Saint-Michel. The restaurant (and student residency) will be on the left. It is a large building right out of the 1970ies, in front of the RER B Port-Royal station. A complete menu costs 7,15€, and cheaper for parisian students.



## Moving around in Paris

The cheapest and most convenient way is to invest 5€ in a Navigo Découvert card, and 22,80€ in the weekly transport fare (from Monday to Sunday).

This allows to travel everywhere in the entire Paris area, including airports (except through OrlyVal). A single metro ticket costs 1,90€ (14,90€ for packs of 10 tickets), and a single ride to Charles-de-Gaulle airport on RER costs 10,30€.

## EVENT



The event is in two part. The first part starts at the school right after the break/poster session. Meet in the poster room, V334, at 16:30.

The dinner will take place on île (= island) aux cygnes, we meet right off the Bir-Hakeim bridge. The closest metro is Line 6, stop Bir-Hakeim, then it is a 5-minutes walk. Please be there at 20:00. There will be a departure from École des Mines, meet in front of the school at 19:15 sharp.

# FAQ



FAQ

## -> Can I have fresh air ?

There is a garden and a terrace, with an access at the level of the V116 room. However, it will be crowded on July 2nd, and used for assembly work on July 1st and 3rd. There are a few other accesses to the garden through the underground level, one is right left after you get down the stairs that leads to the V005a room. Yes, there is a lot of pipes, but it still is an unrestricted access.

Of course, you can also enjoy the Luxembourg garden, right next to the school. When you exit the school, go left, walk 100m and you will find a small entrance door. The Luxembourg garden is open daily from 7:30 till 21:15.

## -> How do I get to V005a ? V334 ?

After the cafétéria and before the V106, take the hidden stairs on your left. Downstairs, turn right, be confident and keep walking along the corridor, you will reach the V005a.

For the V334, pass the cafétéria and the amphitheater under construction, then get two floors upstairs (last floor). Follow the signs and open the right-hand-side door.

## -> Where is the bathroom ?

There is one bathroom at the ground level, next to V005a. It may not be directly accessible through V005a (restauration works), but it is accessible from the staircase that leads to V334. Those in V334 will have to go up one floor and down another one. Another bathroom is also reachable from V334 : go straight and far enough in the corridor at the 3rd floor, it will be on your right.

There are also at least two bathrooms in the Luxembourg wing : one is next to the L109 amphitheater, the other is near the Foyer des élèves (from the front desk, go right through the heavy doors, cross the entrance of the courtyard and go straight until the end of the corridor).

## -> Can I store my luggage somewhere ?

Luggage storage on Saturday will be possible, but not at the front desk. Ask Olivier.

## -> Can I stay and study afterworks ?

Sure ! The summer school rooms are for our exclusive use whole day long. However, note that they cannot be locked. The opening hours of MINES ParisTech are :

Weekdays : 7:30 - 21:30

Saturday : 9:00 - 12:30 and 14:00 - 17:00

Sunday : closed