

HORAIRE / *PROGRAM*

ÉCOLE ET ATELIER

PONTS ENTRE LES SUITES AUTOMATIQUES, L'ALGÈBRE ET LA
THÉORIE DES NOMBRES

24 avril au 5 mai 2017

SCHOOL AND WORKSHOP

*BRIDGES BETWEEN AUTOMATIC SEQUENCES, ALGEBRA AND
NUMBER THEORY*

April 24–May 5, 2017

CONFÉRENCES : salle 6254 (Pavillon André-Aisenstadt)

PAUSES-CAFÉ : salon Maurice-L'Abbé (salle 6245, Pavillon André-Aisenstadt)

LECTURES: *Room 6254 (Pavillon André-Aisenstadt)*

COFFEE BREAKS: *Salon Maurice-l'Abbé (Pavillon André-Aisenstadt)*

Le lundi 24 avril 2017 / Monday, April 24, 2017

08:30–09:00 Inscription (salle 5345) et café-croissants (salle 6245)
Registration (Room 5345) and Coffee & Croissants (Room 6245)

École : Ponts entre les suites automatiques, l'algèbre et la théorie des nombres (salle/Room 6254)

School: Bridges between Automatic Sequences, Algebra and Number Theory (salle/Room 6254)

09:00–10:30 **Christophe Reutenauer** (UQÀM)
“Mini-course: From Christoffel words to Markoff numbers”

10:30–11:00 Pause-café / *Coffee break*

11:00–11:30 **Štěpán Starosta** (Czech Technical University in Prague)
“Generalized Markov constant and continued fractions”

11:30–12:00 **Julien Leroy** (Université de Liège)
“Asymptotic behavior of regular sequences”

12:00–13:30 Pause-déjeuner / *Lunch break*

13:30–15:00 **Reem Yassawi** (Université Paris Diderot-Paris7)
“Mini-course: Introduction to automatic sequences”

15:00–15:45 Pause-café / *Coffee break*

15:45–17:00 **Boris Adamczewski** (CNRS & Université de Lyon)
“Representing natural numbers in base 2... and 3”

17:00– Réception / *Cocktail Reception*

Le mardi 25 avril 2017 / Tuesday, April 25, 2017

08:30–09:00 Café croissants / *Coffee & Croissants*

09:00–10:30 Christophe Reutenauer (UQÀM)
“Mini-course: From Christoffel words to Markoff numbers”

10:30–11:00 Pause-café / *Coffee break*

11:00–11:30 Robbert Fokkink (TU Delft)
“Some applications of space filling curves”

11:30–12:00 Elise Vandomme (UQÀM)
“On a conjecture about regularity and ℓ -abelian complexity”

12:00–13:30 Pause-déjeuner / *Lunch break*

13:30–15:00 Exercices / *Exercises*

15:00–15:30 Pause-café / *Coffee break*

15:30–17:00 Reem Yassawi (Université Paris Diderot-Paris7)
“Mini-course: Introduction to automatic sequences”

Le mercredi 26 avril 2017 / Wednesday, April 26, 2017

08:30–09:00 Café croissants / *Coffee & Croissants*

09:00–10:30 Christophe Reutenauer (UQÀM)
“Mini-course: From Christoffel words to Markoff numbers”

10:30–11:00 Pause-café / *Coffee break*

11:00–12:00 Boris Adamczewski (CNRS & Université de Lyon)
“Algebraic power series and Diophantine equations”

12:00–13:30 Pause-déjeuner / *Lunch break*

13:30–15:00 Exercices / *Exercises*

15:00–15:30 Pause-café / *Coffee break*

15:30–17:00 Reem Yassawi (Université Paris Diderot-Paris7)
“Mini-course: Introduction to automatic sequences”

Le jeudi 27 avril 2017 / Thursday, April 27, 2017

08:30–09:00 Café croissants / *Coffee & Croissants*

09:00–10:30 Christophe Reutenauer (UQÀM)
“Mini-course: From Christoffel words to Markoff numbers”

10:30–11:00 Pause-café / *Coffee break*

11:00–11:30 Eric Rowland (Hofstra University)
“Computing a finite automaton for an integer sequence modulo p^α ”

11:30–12:00 Narad Rampersad (University of Winnipeg)
“Two results on automatic sequences”

12:00–13:30 Pause-déjeuner / *Lunch break*

13:30–15:00 Exercices / *Exercises*

15:00–15:30 Pause-café / *Coffee break*

15:30–17:00 Yann Bugeaud (Université de Strasbourg)
“Mini-course: Factor complexity, automatic numbers, transcendence and Diophantine approximation”

Le vendredi 28 avril 2017 / *Friday, April 28, 2017*

08:30–09:00 Café croissants / *Coffee & Croissants*

09:00–10:30 Christophe Reutenauer (UQÀM)
“Mini-course: From Christoffel words to Markoff numbers”

10:30–11:00 Pause-café / *Coffee break*

11:00–12:00 Boris Adamczewski (CNRS & Université de Lyon)
“Diagonals of rational functions”

12:00–13:30 Pause-déjeuner / *Lunch break*

13:30–14:30 Exercices / *Exercises*

14:30–15:00 Jose Manuel Rodriguez Caballero (UQÀM)
“Dyck paths and Diophantine equations”

15:00–15:30 Pause-café / *Coffee break*

15:30–17:00 Yann Bugeaud (Université de Strasbourg)
“Mini-course: Factor complexity, automatic numbers, transcendence and Diophantine approximation”

Le lundi 1 mai 2017 / *Monday, May 1, 2017*

09:00–09:30 Inscription (salle 5345) et café-croissants (salle 6245)
Registration (Room 5345) and Coffee & Croissants (Room 6245)

09:30–10:30 Boris Adamczewski (CNRS & Université de Lyon)
“Mahler’s method and automatic numbers, I”

10:30–11:00 Pause-café / *Coffee break*

**Atelier : Ponts entre les suites automatiques, l’algèbre et la théorie des nombres
(salle/Room 6254)**

**Workshop: Bridges between Automatic Sequences, Algebra and Number Theory (salle/Room
6254)**

11:00–12:00 Marion Le Gonidec (Université de La Réunion)
“Context-free sequences”

12:00–14:00 Pause-déjeuner / *Lunch break*

14:00–15:00 Dzmitry Badziahin (University of Sydney)
*“Continued fractions of some Mahler functions and applications to Diophantine
approximation”*

15:00–15:30 Pause-café / *Coffee break*

15:30–16:30 Michael F. Singer (North Carolina State University)
“Automatic sets and difference equations”

16:30–17:30 Alice Medvedev (The City College of New York)
“Nonlinear Mahler equations and the model theory of difference fields”

Le mardi 2 mai 2017 / Tuesday, May 2, 2017

09:00–09:30 Café croissants / *Coffee & Croissants*

09:30–10:30 Yann Bugeaud (Université de Strasbourg)
“On the decimal expansion of e ”

10:30–11:00 Pause-café / *Coffee break*

11:00–12:00 Boris Adamczewski (CNRS & Université de Lyon)
“Mahler’s method and automatic numbers, II”

12:00–14:00 Pause-déjeuner / *Lunch break*

14:00–15:00 Gwladys Fernandes (Université de Lyon)
“Mahler’s method in positive characteristic”

15:00–15:30 Pause-café / *Coffee break*

15:30–16:30 Ines Klimann (Université Paris Diderot-Paris7 & CNRS)
“On the Burnside problem: contribution of the automaton groups”

16:30–17:30 Matthieu Picantin (Université Paris Diderot-Paris7 & CNRS)
“From automatic semigroups to automaton semigroups”

Le mercredi 3 mai 2017 / Wednesday, May 3, 2017

08:30–09:00 Café croissants / *Coffee & Croissants*

09:00–10:00 Julien Roques (Université Grenoble Alpes)
“On certain arithmetic properties of Mahler functions”

10:00–10:30 Pause-café / *Coffee break*

10:30–11:30 Anna Medvedovsky (Max-Planck-Institut für Mathematik)
“The Nilpotence Growth Theorem, and applications to mod- p Hecke algebras”

11:30–12:30 Clemens Müllner (TU Wien)
“Automatic sequences fulfill the Sarnak conjecture”

12:30– Après-midi libre / *Free afternoon*

Le jeudi 4 mai 2017 / Thursday, May 4, 2017

09:00–09:30 Café croissants / *Coffee & Croissants*

09:30–10:30 Andrew Bridy (Texas A&M University)
“Automatic sequences and curves over finite fields”

10:30–11:00 Pause-café / *Coffee break*

11:00–12:00 Kiran Sridhara Kedlaya (University of California, San Diego)
“Automata and (generalized) power series: beyond Christol”

12:00–14:00 Pause-déjeuner / *Lunch break*

14:00–15:00 Jeffrey O. Shallit (University of Waterloo)
“Recent results in combinatorics on words using an automatic prover”

15:00–15:30 Pause-café / *Coffee break*

15:30–16:30 Éric Delaygue (Université de Lyon)
“Algebraic independence of G -functions and q -series”

Le vendredi 5 mai 2017 / *Friday, May 5, 2017*

09:00–09:30 Café croissants / *Coffee & Croissants*

09:30–10:30 Thomas Dreyfus (Université de Lyon)
“Mahler equations, differential Galois theory, and transcendence”

10:30–11:00 Pause-café / *Coffee break*

11:00–12:00 Rahim Moosa (University of Waterloo)
“F-sets, Mordell-Lang, and automaticity”

12:00–14:00 Pause-déjeuner / *Lunch break*

14:00–15:00 Reem Yassawi (Université Paris Diderot-Paris7)
“Diagonals of rational functions and substitution dynamical systems on \mathbb{Z}_p ”

15:00–15:30 Pause-café / *Coffee break*

15:30–16:30 Evgeniy Zorin (University of York)
“How bad are automatic numbers?”

16:30–17:30 Narad Rampersad (University of Winnipeg)
“Formulas with reversal”