

CURRICULUM VITAE

CARLO SANNA

Contact information

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Posizioni

01/02/2019 – now | **Postdoctoral Researcher**
Unità INdAM dell'Università di Genova
Progetto Giovani Ricercatori: “Linear correlations of the k -th divisor function”
Supervisor: Prof. Sandro Bettin

Education

15/10/2018 | **PhD in Pure and Applied Mathematics**, cum laude
Università degli Studi di Torino, in association with Politecnico di Torino
Thesis title: “*Arithmetic properties of linear recurrences and other topics in Number Theory*”
Supervisor: Prof. Danilo Bazzanella, Referees: Prof. Giuseppe Molteni, Prof. Alberto Perelli
16/07/2015 | **Master of Science, Mathematics**, 110/110 cum laude and “menzione di merito”
Università degli Studi di Torino
15/10/2013 | **Bachelor of Science, Mathematics**, 110/110 cum laude
Università degli Studi di Torino

Awards, prizes, and scholarships

2016 | **Award Medaglia d'argento and prize Luciana Picco Botta** (€2.000)
sponsored by Università degli Studi di Torino, for the best master in Mathematics of
the academic year 2014/2015
2015 | **PhD scholarship “Contemporary Problems in Mathematics”**
Ranked first over 35 candidates

Teaching experiences

2018/19 | **Assistant of “Mathematics I”** (40 hours)
Corso di Laurea Triennale in Chimica e Tecnologie Chimiche, Università degli Studi di Torino
2017/18 | **Assistant of “Calculus I”** (60 hours)
Politecnico di Torino
2016/17 | **Assistant of “Calculus I”** (60 hours)
Politecnico di Torino

Research groups and projects

- 2018– Member of “Gruppo Nazionale per le Strutture Algebriche, Geometriche e le loro Applicazioni”
Istituto Nazionale di Alta Matematica
- 2018– Member of the group “Geometria algebrica e differenziale e loro aspetti computazionali”
Theme of research: “Crittografia e Teoria dei numeri”
Department of Mathematics “J.-L. Lagrange”, Politecnico di Torino
- 2017/18 Member of the research project “Algebra e Dintorni”
Department of Mathematics “G. Peano”, Università degli Studi di Torino
- 2017/18 Member of the research project “Approssimazione multivariata e algoritmi efficienti con applicazioni a problemi algebrici, differenziali e integrali”
Department of Mathematics “G. Peano”, Università degli Studi di Torino

Conferences

- 2018 Co-organizer of “3rd Number Theory Meeting – Torino”
Department of Mathematics “G. Peano”, Università degli Studi di Torino
http://ntmeeting.polito.it/3rd_Number_Theory_Meeting.html
- 2017 Co-organizer of “2nd Number Theory Meeting – Torino”
Department of Mathematics “J.-L. Lagrange”, Politecnico di Torino
http://ntmeeting.polito.it/2nd_Number_Theory_Meeting.html

Talks and presentations

- 18/04/18 **Waring’s theorem for binary powers**
4th mini symposium of the Roman Number Theory Association, Università Roma Tre
- 12/04/18 **Distribution of integral values for the ratio of two linear recurrences**
Giornata dei dottorandi di Teoria dei Numeri, Università degli Studi di Parma (invitato)
- 19/12/17 **A coprimality condition on consecutive values of polynomials**
Giornate INdAM di Teoria dei Numeri, Università degli Studi di Genova (invitato)
- 21/09/17 **On the greatest common divisor of n and the n th Fibonacci Number**
20th International Workshop for Young Mathematicians, Jagiellonian University
- 06/07/17 **On the G.C.D. of n and the n th term of a linear recurrence**
XXXth Journées Arithmétiques, University of Caen
- 05/06/17 **On the sum of digits of the factorial**
Numeration 2017, Università degli Studi Roma Tre
- 04/11/16 **A factor of integer polynomials with minimal integrals**
1st Number Theory Meeting - Torino, Università degli Studi di Torino

Preprints

- Greedy approximations by signed harmonic sums and the Thue–Morse sequence**
(with Sandro Bettin and Giuseppe Molteni)
<https://arxiv.org/abs/1805.00075>
- Waring’s theorem for binary powers**
(with Daniel Kane and Jeffrey Shallit)
<https://arxiv.org/abs/1801.04483>

On numbers divisible by the product of their nonzero base b digits
<http://arxiv.org/abs/1809.05463>

Accepted peer-reviewed papers

p -adic denseness of members of partitions of \mathbb{N} and their ratio sets
(with Piotr Miska)
Bulletin of the Malaysian Mathematical Sciences Society
<https://doi.org/10.1007/s40840-019-00728-6>

Practical numbers in Lucas sequences
Quaestiones Mathematicae
<https://doi.org/10.2989/16073606.2018.1502697>

On numbers n relatively prime to the n th term of a linear recurrence
Bulletin of the Malaysian Mathematical Sciences Society
<https://doi.org/10.1007/s40840-017-0514-8>

Published peer-reviewed papers

- 2019 **Small values of signed harmonic sums**
(with Sandro Bettin and Giuseppe Molteni)
Comptes Rendus Mathématique **356**, 1062–1074
<https://doi.org/10.1016/j.crma.2018.11.007>
- 2019 **On the p -adic denseness of the quotient set of a polynomial image**
(with Piotr Miska and Nadir Murru)
Journal of Number Theory **197**, 218–227
<https://doi.org/10.1016/j.jnt.2018.08.010>
- 2019 **On numbers n with polynomial image coprime with the n th term of a linear recurrence**
(with Daniele Mastrostefano)
Bulletin of the Australian Mathematical Society **99**, 23–33
<https://doi.org/10.1017/S0004972718000606>
- 2018 **On the greatest common divisor of n and the n th Fibonacci number**
(with Paolo Leonetti)
Rocky Mountain Journal of Mathematics **48**, 1191–1199
<https://doi.org/10.1216/RMJ-2018-48-4-1191>
- 2018 **The density of numbers n having a prescribed G.C.D. with the n th Fibonacci number**
(with Emanuele Tron)
Indagationes Mathematicae **29**, 972–980
<https://doi.org/10.1016/j.indag.2018.03.002>
- 2018 **The moments of the logarithm of a G.C.D. related to Lucas sequences**
Journal of Number Theory **191**, 305–315
<https://doi.org/10.1016/j.jnt.2018.03.012>
- 2018 **A note on primes in certain residue classes**
(with Paolo Leonetti)
International Journal of Number Theory **14**, 2219–2223
<https://doi.org/10.1142/S1793042118501336>

- 2018 **Central binomial coefficients divisible by or coprime to their indices**
International Journal of Number Theory **14**, 1135–1141
<https://doi.org/10.1142/S1793042118500707>
- 2018 **On the k -regularity of the k -adic valuation of Lucas sequences**
 (with Nadir Murru)
Journal de Théorie des Nombres de Bordeaux **30**, 227–237
<https://doi.org/10.5802/jtnb.1025>
- 2017 **On the closure of the image of the generalized divisor function**
Uniform Distribution Theory **12**, 77–90
<https://doi.org/10.1515/udt-2017-0016>
- 2017 **A coprimality condition on consecutive values of polynomials**
 (with Márton Szikszai)
Bulletin of the London Mathematical Society **49**, 908–915
<https://doi.org/10.1112/blms.12078>
- 2017 **Distribution of integral values for the ratio of two linear recurrences**
Journal of Number Theory **180**, 195–207
<https://doi.org/10.1016/j.jnt.2017.04.015>
- 2017 **p -adic quotient sets**
 (with Stephan Ramon Garcia, Yu Xuan Hong, Florian Luca, Elena Pinsker,
 Evan Schechter, and Adam Starr)
Acta Arithmetica **179**, 163–184
<http://doi.org/10.4064/aa8579-4-2017>
- 2017 **The quotient set of k -generalised Fibonacci numbers is dense in \mathbb{Q}_p**
Bulletin of the Australian Mathematical Society **96**, 24–29
<https://doi.org/10.1017/S0004972716001118>
- 2017 **A factor of integer polynomials with minimal integrals**
Journal de Théorie des Nombres de Bordeaux **29**, 637–646
<http://doi.org/10.5802/jtnb.994>
- 2017 **On numbers n dividing the n th term of a Lucas sequence**
International Journal of Number Theory **13**, 725–734
<http://doi.org/10.1142/S1793042117500373>
- 2017 **On the p -adic valuation of Stirling numbers of the first kind**
 (with Paolo Leonetti)
Acta Mathematica Hungarica **151**, 217–231
<http://doi.org/10.1007/s10474-016-0680-4>
- 2016 **The p -adic valuation of Lucas sequences**
The Fibonacci Quarterly **54**, 118–124
<http://www.fq.math.ca/54-2>
- 2016 **On the p -adic valuation of harmonic numbers**
Journal of Number Theory **166**, 41–46
<http://doi.org/10.1016/j.jnt.2016.02.020>
- 2015 **Counting arithmetic formulas**
 (with Edinah K. Gnang and Maksym Radziwiłł)
European Journal of Combinatorics **47**, 40–53
<http://doi.org/10.1016/j.ejc.2015.01.007>

- 2015 **On the number of arithmetic formulas**
International Journal of Number Theory **11**, 1099–1106
<http://doi.org/10.1142/S1793042115500591>
- 2015 **On the sum of digits of the factorial**
Journal of Number Theory **147**, 836–841
<http://doi.org/10.1016/j.jnt.2014.09.003>
- 2014 **Covering an arithmetic progression with geometric progressions and vice versa**
International Journal of Number Theory **10**, 1577–1582
<http://doi.org/10.1142/S1793042114500456>
- 2014 **On the exponential sum with the sum of digits of hereditary base b notation**
INTEGERS **14**, article A36
<http://www.integers-ejcnt.org/vol14.html>
- 2014 **On the asymptotic density of the support of a Dirichlet convolution**
Journal of Number Theory **134**, 1–12
<http://doi.org/10.1016/j.jnt.2013.07.012>
- 2013 **Uncertainty principles connected with the Möbius inversion formula**
 (with Paul Pollack)
Bulletin of the Australian Mathematical Society **88**, 460–472
<http://doi.org/10.1017/S0004972712001128>
- 2012 **On arithmetic progressions of integers with a distinct sum of digits**
Journal of Integer Sequences **15**, article 12.8.1
<https://cs.uwaterloo.ca/journals/JIS/VOL15/Sanna/sanna3.html>
- 2012 **A new elementary proof of the inequality $\varphi(n) > \pi(n)$**
Notes on Number Theory and Discrete Mathematics **18**, No. 3, 35–37
<http://nntdm.net/volume-18-2012/number-3/35-37>

References

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