BELGIAN MATHEMATICAL SOCIETY

Newsletter

BELGIAN MATHEMATICAL SOCIETY

131, January 15, 2021

Comité National de Mathématique CNM

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NCW Nationaal Comité voor Wiskunde

Newsletter of the Belgian Mathematical Society and the National Committee for Mathematics

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BELGIAN MATHEMATICAL SOCIETY

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The next edition of this newsletter will appear on March 14th, so from now till March 5th all content can be sent to wendy.goemans@kuleuven.be. Any information that you qualify as interesting to be spread among the Belgian Maths community is very much welcomed!

Foreword

Dear BMS members,
Dear fellow mathematicians,

Together with the entire board of the BMS, we wish you all a happy, creative, cheerful and joyous 2021.

Of course, we all know that not everything will go according to plan. We witness the disastrous effects that this pandemic is having on our loved ones, our students, our colleagues and even ourselves. We observe, virtually powerless, as many of the most essential cogs of what makes our society Humane are slowly but surely waning under the seemingly disinterested gaze of our lackluster leadership. We see the mounting power and unreasonable influence that loud laughs, wild claims and irrational statements wield over reason, science, and solidarity.

Despite these grim observations, there is nevertheless hope that 2021 will be the harbinger of a new era of happiness, based on generosity and collective intelligence. For instance, the vaccine rollouts are proving to be as harmless and effective as announced, bringing hope that we may soon resume our social lives and quit the screenridden routine which has been our groundhog-day-like reality for the past year. We may also rejoice that some of the loudest proponents of hateful alternative realities have, at least for a while, lost their megaphones. This leaves a vacuum that one may hope will be filled not by bigotry and selfishness, but rather with Truth and kindness. Indeed, if foolishness can congregate and bring modern society to the brink of destruction, then so can intelligence and enlightenment. It is perhaps our duty, as Mathematicians, to take part in this fight against disinformation, be it only on a very local and minuscule level, with patience, understanding and pedagogy.

As many of you know already, the year 2021 marks the 100th anniversary of the Belgian Mathematical Society. (Somewhat whimsically, the society was actually created on the 14th of March 1921.) As could be expected, we have decided to cancel all the real-life events that we had planned and every BMS related activity in 2021 will take place online. You are invited to consult our website regularly if you wish to be kept informed. We will also send an email to inform you, as soon as the details have all been ironed out.

Stay safe, and see you soon, be it in real life or through a computer screen.

Philippe, Wendy and Yvik

In Memoriam Alain Verschoren
(August 9, 1954 - November 27, 2020)

Prof. Em. Alain Verschoren passed away unexpectedly on November 27, 2020. We look back to his mathematical achievements, and to his contributions to the University of Antwerp. The algebraic approach would be to start at the beginning. Keeping in mind the duality between algebra and geometry, we contravariantly follow the geometric path, which is more exciting, as you will find out!

In 2003, the three Antwerp Universities RUCA, UFSIA and UIA joined forces, and became the University of Antwerp (UA). Finally, after many years, the Antwerp metropolis obtained what it was entitled to: a complete university. Alain Verschoren was the last rector of RUCA (2001-2003), and he was one of the architects behind the unification. He became the first chairman of the board of directors of the new university (2003-2008) and the second rector (2008-2016).

During the eighties and nineties, Alain Verschoren was an active member of the committee of the Bel-

gian Mathematical Society. He was the president of the Society from 1988 until 1992. At the beginning of the nineties, the Belgian Mathematical Society was at a turning point in its history. You can read about the Society in [1], where its history is divided into three chapters. The end of the second period ends in 1993. Together with Luc Lemaire (president 1993-1996), he laid the foundation for the modernization of the Society. After the end of his presidency, he kept on supporting the Society, although no longer as an active member of the board. We welcomed him for the last time on one of our activities on November 19, 2011, at a symposium organized jointly with the mathematics teachers associations of Flanders (VVWL) and the French speaking part of Belgium (SMBef), where he chaired the concluding panel discussion.

Alain Verschoren was also active in the organization of mathematical events. One of his initiatives was the organization of the SAGA conferences. SAGA is the acronym for semana de álgebra y geometría algebraica. This was a series of international meetings organized in Belgium and Spain, focussing on the at that time growing cooperation between algebraists in both countries. The first meeting took place in Antwerp at the end of the eighties, followed by Santiago de Compostela (1988), Puerto de la Cruz, Tenerife (1992), Antwerp-Brussels (1996) and Léon (1999). In my opinion, the most inspiring was the meeting on Tenerife. Alain had a fruitful scientific cooperation with the team of Prof. Maria Victoria Reyes Sanchez at the Universidad de la Laguna.

Throughout his career, Alain Verschoren has been active in a wide variety of mathematical disciplines, such as genetic algoritms, neural networks and optimization. But his most important work is in algebra, more specifically in the development of non-commutative algebraic geometry. The search for an adequate non-commutative version of algebraic and differential geometry has been one of the driving forces in mathematical research during the five past decades. Complete success was never achieved, but substantial progress was made. The approach of the algebra research group in Antwerp was based on torsion theoretic methods, where the basic idea is to replace prime ideals by kernel functors. One of the milestones is the joint monograph [3] with Freddy Van Oystaeyen, the founder of the algebra team in Antwerp. In his Mathematical Review [2], Makar-Limanov writes: "The authors are led to generalize to the case of R an affine polynomial identity k-algebra. Notions of sheaf and variety are carried over with some difficulty, but the theory is completed through a Riemann-Roch theorem." This is a typical example of how non-commutative geometry works: although the theory is probably not yet in its final form, and is perhaps still more algebraic than geometric, there are manifest appearences of geometric concepts.

Alain always liked being a little bit mysterious, with a sense of humour behind it. It is no coincidence that his favorite writer is James Joyce. He was a collector of different editions of his books (in all possible languages). If you ever visited his office at the Middelheim Campus in Antwerp, then you probably noticed the permanent exhibition of the most remarkable pieces of his collection. Once I visited colleagues at the University of Cluj-Napoca in Transsylvania. With the help Andrei Mărcuş, I managed to find translations in Romanian and Hungarian, and offered them as a present. I refer again to the Review [2] by Makar-Limanov: "In particular, the reviewer would like to especially single out the extensive use by the authors of reference [91]: J. Joyce , Finnegan's wake, throughout their work."

The mystery continues. Who is Arnold Beckenheimer? Does he really exist or is he one of Alain's alter egos. What is known is that he is a mathematician at Transsylvania New University (TNU), and a frequent visiting professor at UA. You will find his name in books and proceedings authored by Alain. Once I was in the committee of a doctoral dissertation at the university of Santiago de

Compostela, together with Alain. After the defence, during the reception, a telegram arrives from UA: congratulations to the new doctor by Arnold Beckenheimer! An existing person or another illustration of Alain's sense of humour? The mystery remains.

In our journey back in time, we arrive at the period 1976-1986, when Alain was a research fellow at the NFWO. This was still the pioneering time of the algebra team in Antwerp. The weekly seminars on Friday are legendary, especially the continuation of the discussion afterwards in a nearby establishment, the Uil, the Campus or het Bieke, with Michel Van den Bergh, Jan Van Geel, Lieven Lebruyn, Erna Nauwelaerts, Eric Jespers, Paul Wauters, many others, myself, and of course the leader of the team Fred Van Oystaeyen. Many international visitors joined us on these afternoons and evenings, and could have a taste of the rich variety of Belgian beers.

It is also during this period that Alain meets his wife Lin, a mathematician from the University of Antwerp.

Then we continue our journey to the time when Alain was a student at RUCA and UIA (1972-1976). From the first day that I arrived at RUCA, in October 1974, I heard amazing stories about three brilliant students in the first licence at UIA: twins named Mark and Luc Duponcheel, and a third one that was even stronger. That was Alain Verschoren, as you probably have guessed. Soon I met Alain at the glorious events organized by WINAK, the student circle for mathematics and physics students. He was actively involved in WINAK, together with the Duponcheels, Ivo Janssens, Thierry Vanderveken, Mark Janssens, Bert Arnold, Jan Toorman, Pit - Pjotr - Swinnen and many others. The cantusses at café Cecile, the student baptism parades in Antwerp, culminating in a megaparty at the Handelsbeurs, the yearly WINAK trip to Amsterdam and many thé dansants at the Domino on the Stadswaag in Antwerp: Alain was omnipresent there. Many stories to be told here, but this is not the appropriate place. Let me just mention that the highlight of each thé dansant was a rather wild and loud performance of the French Cancan, conducted by Alain.

Finally there is the time when Alain was a student at the secondary school. During this time, I did not know him yet, but luckily we have another testimony. Paul De Knop was one of his classmates at the Atheneum of Antwerp. Many years later, they were colleagues again, now as rectors of two prominent Flemish universities, making the circle round. Paul confirms that, already during these times, Alain was exceptionally good in mathematics, but also tells that he was himself slightly better. Whether you believe this last part or not, you have to admit that this is a nice story.

I already mentioned Alain's very personal sense of humour; in particular, he was very keen on playing jokes with people. Once I was the victim of it myself. They asked me to give the closing speech of the meeting in Spanish, and prepared a text for me that I had to read. The point was that the text was in Italian. Of course he greatly enjoyed this, which brings me to one final observation: he lived his life very intensively, and he enjoyed every minute of it, no matter what he was doing: proving a theorem, drinking a beer, attending a meeting, dancing the French Cancan or inventing new jokes.

We will miss his engagement, his enthusiasm, his humour, and, most of all, his personality. We thank Alain for all that he has done.

I wish his wife Lin, his children Thomas and Noemie, and his grandchildren Han and Sen much strength in these difficult times. We will never forget him.

Stefaan Caenepeel
December 14, 2020

References

[1] F. Bastin, A. Bultheel, S. Caenepeel, L. Lemaire, The Belgian Mathematical Society, Newsletter European Math. Soc. **80** (2011), 45–47.

[2] L. G. Makar-Limanov, MR0639153 (85i:16006), Review of [3], American Mathematical Society, 1981.

[3] F. Van Oystaeyen, A. Verschoren, Noncommutative algebraic geometry. An introduction. Lecture Notes in Mathematics, 887. Springer-Verlag, Berlin, 1981. vi+404 pp.

1 News from the BMS & NCM

1.1 BMS board

The General Assembly December 2, 2020 approved the following list of BMS board members:

Staff and organisation of the Belgian Mathematical Society

- President: Yvik Swan (ULB)
- Vice-President: Philippe Cara (VUB)
- Treasurer: Peter De Maesschalck (UHasselt)
- Secretary: Peter De Maesschalck (UHasselt)

Further members of the board of the BMS:

- Stef Caenepeel (VUB) (editor in chief of the Bulletin)
- Andreas Weiermann (UGent)
- Karel Dekimpe (KU Leuven Kulak)
- Camille Debiève (UCL) (Managing Editor of the Bulletin)
- Jean Van Schaftingen (UCL)
- Wendy Goemans (KU Leuven)
- Joost Vercruysse (ULB)
- Céline Esser (ULiège)
- Karl Grosse-Erdmann (UMons)
- Christian Michaux (UMons)
- Leo Storme (UGent)
- Nero Budur (KU Leuven)
- Jasson Vindas (UGent)

Please contact your closest board member if you have ideas, suggestions or requests for the BMS!

1.2 Membership 2021

Since there were no activities organized by the BMS in 2020, the BMS board decided that all members who paid their membership fee for 2020 receive their 2021 membership for free: they are automatically a BMS member in 2021. If you were a member in 2020, no action is needed from your part. If you have

questions concerning this please (e.g. if you have combined memberships) do not hesitate to contact us (see email address below).

To check whether you were a member in 2020, go to our online database. Try typing your family name in the search box. If you agreed to have your institution and e-mail in our public database at the time you became a member, you will see your institution and e-mail address. You will also see the year in which you last paid your dues. *If you forgot to pay for more than one year, you will get no response from our database as you are not a member anymore!* In this case we suggest you to re-apply for membership by filling out the online form at http://bms.ulb.ac.be/membership/appliform.php and paying your membership dues for 2020–2021 (via **BIC: GEBABEBB / IBAN: BE70 0011 7447 8525** or via paypal).
If you find the database to be inaccurate, or if you have any other questions, please contact us at bms@ulb.ac.be.

1.3 Bulletin of the Belgian Mathematical Society - Simon Stevin

In November 2020, Volume 27, Number 4, of the Bulletin of the Belgian Mathematical Society - Simon Stevin appeared with the following table of contents:

- **Sam Mattheus** A counterexample to Fuglede's conjecture in $(\mathbb{Z}/p\mathbb{Z})^4$ for all odd primes. 481–488.
- **Rong Mi** L_f^{2p}-harmonic 1-forms on f-minimal hypersurfaces in a weighted manifold. 489–497.
- **Rahul Kumar, Atul Gaur** A note on λ-domains and Δ-domains. 499–508.
- **Mateusz Woronowicz** A note on Feigelstock's conjecture on the equivalence of the notions of nil and associative nil groups in the context of additive groups of rings of finite rank. 509–519.
- **Moharram Aghapournahr, Mahmoud Behrouzian** Cofiniteness properties of generalized local cohomology modules. 521–533.
- **Dano Kim** Analytic characterization of nef and good line bundles. 535–545.
- **Mahnaz Shams, Morteza Oveisiha, Ali Abkar** Strong well-posedness of a system of split variational inequalities. 547–556.
- **Farzaneh Vahdanipour, Kamal Bahmanpour, Ghader Ghasemi** On the cofiniteness of generalized local cohomology modules. 557–566.
- **Michel Cahen, Simone Gutt, Stefan Waldmann** Nuclear Group Algebras for Finitely Generated Groups. 567–594.
- **Aastha Malhotra, Anuradha Gupta** Complex symmetry of weighted composition operators on the space $\mathcal{H}^2_{\alpha,\beta}(\mathbb{D})$. 595–607.
- **Abderraouf Dorai, Elmiloud Chil** Some aspects of multiorthomorphisms on Riesz spaces. 609–626.
- **Qingze Lin, Junming Liu, Yutian Wu** Order boundedness of weighted composition operators on weighted Dirichlet spaces and derivative Hardy spaces. 627–637.
- **Mohammad Ansari** Correction to "Strong topological transitivity of some classes of operators". 639–640.

In December 2020, Volume 27, Number 5, of the Bulletin of the Belgian Mathematical Society - Simon Stevin appeared with the following table of contents:

- **Jerrell Cockerham, Melissa Gutiérrez González, Pamela E. Harris, Marissa Loving, Amaury V. Miniño, Joseph Rennie, Gordon Rojas Kirby** Weight q-multiplicities for representations of the exceptional Lie algebra $\mathfrak{g}_2$. 641–662.

- **Nils Leder** Serre's property FA for automorphism groups of free products. 663–682.
- **Jogli G. Araújo, Henrique F. de Lima, Wallace F. Gomes, Marco Antonio L. Velásquez** Submanifolds immersed in a warped product with density. 683–696.
- **Junfeng Liu, Songxiao Li** On Invariant Subspaces of Subdecomposable Operators. 697–709.
- **J. Khodabandehlou, S. Maghsoudi, J. B. Seoane-Sepúlveda** Lineability and algebrability within $p-$adic function spaces. 711–729.
- **Adara M. Blaga, Antonella Nannicini** Generalized quasi-statistical structures. 731–754.
- **Erkan Cimen** Uniformly convergent numerical method for a singularly perturbed differential difference equation with mixed type. 755 –774.
- **N. de Rancourt** Spectral-free methods in the theory of hereditarily indecomposable Banach spaces. 775–787.
- **Longfa Sun, Yanpeng Ma** Stability of ε-isometries on the positive cones of finite-dimensional Banach spaces. 789–800.

These two volume numbers are the last that appeared in printed version. From Volume 28 on, the Bulletin will only appear in electronic form. Remember, as a member of the BMS you can ask for electronic access to all electronically available issues of the bulletin. If you don't have a login yet, contact pcara@vub.ac.be.
For the table of contents of previous issues, see https://projecteuclid.org/all/euclid.bbms.

2 Announcements

2.1 SciPost: new journal to be launched in mathematics

SciPost (https://scipost.org/) was founded in 2016 by theoretical physicist Jean-Sébastien Caux with a two-fold aim:

- Establishing a diamond open access journal in physics
- Establishing a platform that can also host other journals.

SciPost Physics is already a great success. The journal has rapidly gained a position of trust in the physics community, and has already obtained an impact factor higher than 5.

What is **diamond open access**? This means that all papers can be read by anyone for free, and that there are no article processing charges (APCs) for authors. In mathematics there exist a few diamond open access journals. Most notable is Acta Mathematica published by the Mittag-Leffler Institute. Also well-known is Symmetry, Integrability and Geometry: Methods and Applications (SIGMA). A complete list can be found at https://www.cimpa.info/en/node/62.

What is different about the SciPost approach? It is a non-profit platform by scientists and for scientists. Its business model (https://scipost.org/finances/business_model/) and finances are completely open to the public. The aim is to establish journals at the highest scientific level. As a further innovation and in the interest of openness, the referee reports are published alongside the papers.

Currently KU Leuven is the only Belgian sponsor of SciPost, alongside many other prestigious universities. If you support this initiative and would like your university to support SciPost as well, please contact your librarian. The reader may wonder why SciPost needs funding. This is mainly to cover limited personnel and infrastructure costs. If you divide the total yearly expenses by the number of

papers published per year, this amounts to ca 400 euro per paper. SciPost uses the financial support of institutions who believe in this new model of publishing to provide its services free of charge to all readers and authors.

By comparison: publishing a paper open access in Nature costs authors more than 9.000 euro. Publishing an open access paper in one of the mathematics journals of the London or American Mathematical Societies costs more than 1.000 euro per paper.

We are currently in the process of establishing a new SciPost journal on mathematics. In order for this to become a success, we are looking for strong people who are willing to take on editorial duties. Interested mathematicians can contact Hendrik De Bie (hendrik.debie@ugent.be).

2.2 Platform Wiskunde Vlaanderen

During its general assembly of 2 December 2020 the Belgian Mathematical Society unanimously decided to become a founding member of *Platform Wiskunde Vlaanderen*.

This Platform is a non profit organisation which groups mathematicians from industry, health sciences, banking, economics, education, academia, ... in order to make clear to the wide public and to decision makers how important matematics is in today's economy, society and technology. It is striking to see that the more mathematics becomes indispensable in all aspects of modern life, the more difficult it is for young (and older) citizens to perceive and appreciate the impact and beauty of mathematics. The huge need for mathematically trained professionals will only grow in future and the country should not underestimate the importance of mathematics. For this, the Platform proposes to group everyone who is involved so that all efforts can be coordinated. One has to esure public awareness, support education and research in mathematics, encourage a dialog between users and creators of (new) mathematics, encourage youngsters who like maths to actually follow their heart and do maths, ...

Following the example of the Platform Wiskunde Nederland, a team of mathematicians form several Flemish institutions contacted colleagues and users of mathematics from all layers of society. They developed a mission statement and prepared everything for the foundation of a non profit organisation. All details can be found on their website https://www.platformwiskunde.be. As the mission of *Platform Wiskunde Vlaanderen* is very close to our mission, the Society gladly decided to support this initiative and accepted to become a founding member.

The Platform will officially be launched on π-day 2021, which coincides with the 100^{th} anniversary of the Belgian Mathematical Society!

2.3 Dedication to Paul Mansion

Hervé Le Ferrand (Université de Bourgogne) signale la parution d'un numéro de la Revue des Questions Scientifiques en grande partie consacré au mathématicien belge Paul Mansion (acte de la journée Paul Mansion, pour son centenaire, Marchin, Novembre 2019):

https://www.rqs.be/app/views/revue.php?id=546.

2.4 News from UGent

Prof. Michael Ruzhansky was granted a Methusalem project entitled "Analysis and Partial Differential Equations". Congratulations!

3 (Online) Meetings, Conferences, Lectures, ...

3.1 February 2021

Beautiful Impact of Mathematics in Society – BIMS IV

February 6, 2021

On Saturday February 6th, 2021, the fourth edition of the conference *Beautiful Impact of Mathematics in Society* will take place. This fourth edition is particularly aimed at mathematics teachers. But all friends of mathematics are of course welcome to participate. Note that all talks and workshops are in Dutch. Due to the corona-measures and the current pandemic situation, this conference will be organized completely online. The program of the day is as follows.

09:30 Opening

10:00 Workshop: *Waarom Alan Turing een held is*.

11:30 Lezing door Hannelore Prinsen: *Leren wandelen*.

12:30 Pauze

14:00 Workshop: *Spectrale clustering van data*.

15:30 Lezing door David Eelbode: *FUNdamental Mathematics*.

More information can be found online

https://we.vub.ac.be/en/beautiful-impact-mathematics-society-bims-iv.

Participation is free, but registration is necessary, and can be done through the above website.

3.2 Seminars and colloquia

Universiteit Antwerpen: Analysis & Geometry Seminar

Online on Wednesdays 16.00 - 17.00

For scheduled talks and all information, see

https://www.uantwerpen.be/nl/personeel/sonja-hohloch/private-webpage/seminars/analysis—geometry-/

4 Job announcements

4.1 From ULB

L'École polytechnique de Bruxelles ouvre un poste académique temps plein en mathématiques pour l'ingénieur.

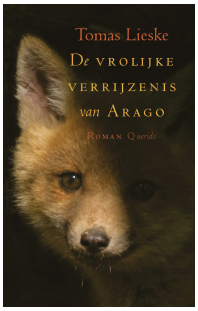
For details see the end of this newsletter.

5 History, maths and art, fiction, jokes, quotations ...

5.1 Adhemar's corner

To start this new year well, here is a book review of Adhemar Bultheel. It is on *De vrolijke verrijzenis van Arago* by Tomas Lieske, who writes on a mixture of fiction and historical figures (Paul Ehrenfest, Niels Bohr, Willem De Sitter) at Leiden University in the 1920's.

De vrolijke verrijzenis van Arago, *Tomas Lieske*, Querido, 2018 (287 p.) isbn: 978-902140897-2 (pbk).

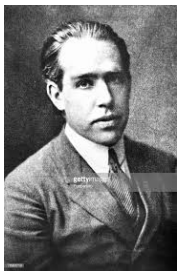


Tomas Lieske

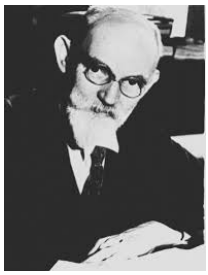
What you need to know before reading this novel is that in 1920, when the new quantum physics was a hot topic, Leiden was an important center. Hendrik Lorentz (Nobel Prize 1902) decided to resign from Leiden University and asked Einstein to be his successor. However Einstein just accepted a position at ETH in Zürich, so Paul Ehrenfest became the successor of Lorentz. Ehrenfest founded the Institute of Theoretical Physics which became later the Lorentz Institute.

Ehrenfest was a Jew born in Vienna. A course by Boltzmann inspired him to become a theoretical physicist. His main contributions were in statistical mechanics. In 1902 he visited Lorentz in Leiden and later got a PhD in Vienna. In 1904 he married Tatyana Afanasyeva, a mathematician from Kiev who collaborated in his research. They had two daughters: Tanja (who became a mathematician), Galinka (who became a writer and illustrator) and two sons: Paul Jr. (who became a physicist) an Wassik (who had Down). The family travelled around visiting several universities, looking for a position. In Zürich he met Einstein and they became good friends. He was appointed in Leiden in 1912 and was later offered to succeed Lorentz. He was not the foremost physicist of his time, but he was an excellent teacher, invited many of the most important scientists of his time and had many famous students. Because of the situation of his friends in an emerging climate of nazism in 1931, he got in a deep depression, and after making arrangements for the rest of his family he shot his son Wassik, and then killed himself.

P. Ehrenfest



N. Bohr



W. De Sitter

Niels Bohr is a Danish physicist (Nobel Prize 1922) who is famous for many things, the atomic model and his contributions to quantum theory are probably best known. He was also a philosopher and an active opponent of nazism. Both Einstein and Bohr were regular visitors of the Ehrenfest home.

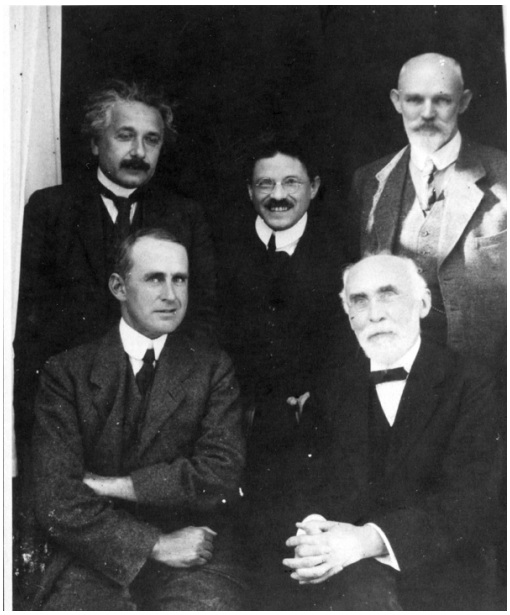
Willem De Sitter was a mathematician, astronomer, and cosmologist who became the director of the Leiden Observatory in 1918. He published with Einstein, he conceived the De Sitter space, and studied the moons of Jupiter. He was a friend of Ehrenfest as well.

Why all this is needed to read this novel by Tomas Lieske? The ouverture of the novel describes a 1924 scene where Ehrenfest and Bohr arrive in a Fiat automobile in a hotel. They go for a swim at midnight and Lise Werner rises from the water, riding with a motorcycle on a cable spanned to a platform.

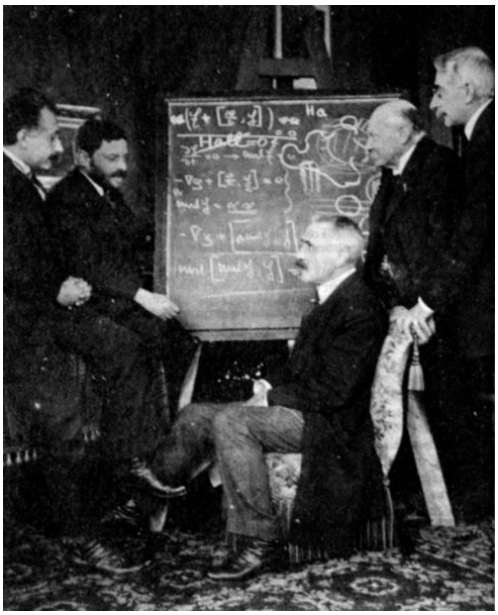
Then there is a time shift to 1999. A couple with their 15 year old daughter Joys are traveling in the same Fiat in the Dolomites. The mother was a model and got pregnant with Joys which ended her career. The reason they drove out there was to see the solar eclipse because the father has more than average interest in astronomy and science. He was constantly entertaining his daughter with facts, which can only annoy and irritate her. In a hairpin bend, a young fox on the road is overrun, Joys is thrown out of the car and after hitting a tree, the car with dead parents disappears over the edge of the precipice.

Then the story splits in two universes. There is Joys who is picked up by two weird hillbillies and brought to a hospital where she remains in a coma, she cannot see or communicate, but is aware of everything that is happening around her. In the other universe, Joys sees the fox rising from the asphalt, but does not remember her name or anything of her life. The fox starts following

her and she calls it Arago. Whether there is a link with the mathematician François Arago is not clear to me. They slowly start to trust each other and survive together in the woods until Arago is injured in a fight with a cat and they ask for help in the nearby house of Simone Werner who gives her the name Lise Werner. They decide to stay and live as mother, daughter, and pet. After 100 pages, there is a sudden switch in the novel. Simone turns out to be the niece of Paul Ehrenfest who writes a letter from Leiden inviting her and Lise to come and stay with them. They are welcome to help in the household.



Einstein, Ehrenfest, Lorentz (T)
Eddington, De Sitter (B)



(L) Einstein, Ehrenfest
(R) Langevin, Kamerligh Onnes, Pierre Weiss

Simone and Lise move to Leiden and meet all the famous physicists who were inventing new science with their thought experiments, thinking the unthinkable. With some problem they also succeed in bringing Arago to Leiden. De Sitter and Bohr are regular visitors and they become also friends of Simone and Lise. Ehrenfest is depressed, not being a top physicist like his visitors. He doesn't have time enough and his son Wassik has difficult periods where he is unmanageable, diverting him from his work. De Sitter takes Lise on a skating tour (Lise just happens to be a very good equilibrist). The visits of Niels Bohr are always rejoiced by the whole household. Even Ehrenfest switches to a better mood when Bohr is expected. Bohr, the athletic man (his brother was a soccer player), who is able to accept everything without prejudices, to think the unthinkable, invites Lise for a midnight swim (but she can prevent it). Looking after Wassik, she can sleep in a bedroom next to Bohr's. She has a secret crush on the scientist. Seven years passed and she is a young woman now.

The story is told interlacing what is happening in the hospital bed with Joys, who gets (real) visits from the two weird men that saved her and the (imaginary) visits from her parents who died in the car crash. We learn the two sides of all the characters: they all have something good, but also something really bad. Simone had killed two of her rapists, the two Samaritans who saved Joys were actually perverts, Ehrenfest is a positive person but has his depressions (shooting his son and his suicide is not part of the novel) and Joys the revolting insufferable puber is the antipole of the sweet Lise. The 1920 story ends with Arago being electrocuted and evaporating in a fireball. Eventually Joys awakes from her locked-in situation with the two peasants at her bedside who accompany her to an ethereal ending of the novel.

It is all impossible and hard to believe, and yet Lieske takes the reader along this surreal thought experiment of Joys who is living in a dream using all the elements her father has told her, to live the ideal life she will never have.

Adhemar Bultheel

ULB UNIVERSITÉ LIBRE DE BRUXELLES

science4refugees

HR EXCELLENCE IN RESEARCH

POSTE ACADEMIQUE TEMPS PLEIN EN MATHÉMATIQUES POUR L'INGÉNIEUR

ÉCOLE POLYTECHNIQUE DE BRUXELLES

Référence : 2021/A037
Date limite du dépôt des candidatures : 15/02/2021
Date d'entrée en fonction prévue le : 01/10/2021

Descriptif du poste

L'École polytechnique de Bruxelles ouvre un poste académique temps plein en mathématiques pour l'ingénieur.

L'École polytechnique de Bruxelles recherche un.e mathématicien.ne (appliqué.e) afin d'intégrer l'équipe en charge de l'enseignement des mathématiques dans le cadre du programme de Bachelier en sciences de l'ingénieur, orientations ingénieur civil et ingénieur civil architecte. Le/la candidat.e sera également amené.e à intervenir dans le programme de Bachelier en sciences de l'ingénieur à Charleroi (co-organisé avec l'Université de Mons). Au cours de la première année, un allègement de la charge pourra être envisagé afin de faciliter son intégration.

Le/la titulaire développera une activité de recherche en mathématiques appliquées. Le projet de recherche devra impérativement mettre en évidence une intégration dans les activités développées au sein de l'École polytechnique de Bruxelles. Selon la nature de ce projet, la personne sera attachée au laboratoire de l'École qui lui permettra de réaliser ces activités de recherche dans les meilleures conditions.

Domaine de recherche : Mathématiques appliquées.
Le/la candidat.e doit présenter un excellent dossier scientifique.

Objectifs scientifiques :

Le/la candidat.e développera une recherche en mathématiques appliquées, en synergie avec d'autres activités de recherche développées au sein de l'Ecole polytechnique de Bruxelles, selon son expertise. La recherche au sein de l'EPB est notamment organisée en thèmes interdisciplinaires qui reflètent les défis sociétaux majeurs : Santé, Alimentation, Energie, Transport, Environnement, Sécurité et Société inclusive.
Il est attendu du/de la candidat.e qu'il/elle lance de nouveaux projets de recherche dans son domaine d'expertise, et dépose des demandes de financement de ses recherches aux niveaux régional, national et européen. Le/la candidat.e bénéficiera pour ce faire du Département Recherche de l'ULB.

Objectifs pédagogiques :

L'Ecole polytechnique de Bruxelles recherche un.e excellent.e pédagogue pour les enseignements de mathématiques de ses programmes. Dans le contexte de la formation des ingénieurs civils, les cours de mathématiques de Bachelier poursuivent deux objectifs :

- *Fournir les outils mathématiques adéquats pour la résolution de problèmes dans le domaine de l'ingénierie.* Les mathématiques doivent être apprises de façon « opérante ». Les notions vues doivent être maîtrisées dans un cadre d'ingénierie. Il s'agit de former les étudiants à être des utilisateurs des mathématiques : ils doivent être à même de poser et de résoudre, au travers de notions mathématiques diverses, des équations décrivant un système, afin de, en comprenant chaque étape de la résolution, résoudre des problèmes concrets de l'ingénierie. Une attention particulière est prêtée aux propriétés qui caractérisent les solutions des équations, aux méthodes de résolution, ainsi qu'à leur portée.
- *Apprendre à utiliser un raisonnement formel rigoureux pour arriver, sur base d'un ensemble d'hypothèses, à une conclusion non triviale.* Cela implique en particulier la connaissance de techniques de preuve, la capacité de construire un raisonnement formel et de manipuler des notions abstraites, la lecture critique d'un raisonnement formel, la compréhension des hypothèses des résultats énoncés, l'usage des contre-exemples, l'aptitude à adapter un raisonnement formel à un nouveau contexte (de procéder "par analogie"). Il s'agit ici d'utiliser le cadre unique qu'offre les cours de mathématiques pour former « l'esprit » des étudiants à affronter une situation nouvelle en mobilisant un corpus de compétences transversales.

Outre l'enseignement des cours de mathématiques précisés ci-dessous, le/la titulaire du poste s'attachera à adopter des approches pédagogiques innovantes et s'impliquera également dans d'autres formes d'enseignements telles que la gestion des projets d'année, des stages, la direction de mémoires de fin d'études, etc. Il/elle travaillera en étroite collaboration avec les autres titulaires du programme afin de proposer un projet pédagogique cohérent.

Cours repris dans la charge au moment du recrutement :

Le/la titulaire de la chaire sera amené.e à enseigner les cours suivants :

- MATH-H-1001 « Eléments d'algèbre et d'analyse » (30h théorie, 30h exercices), Bloc1
- MATH-H-2000 « Analyse II » (48h théorie, 48h exercices), Bloc 2

D'autres cours de mathématiques, donnés à Bruxelles et à Charleroi, sont susceptibles de compléter cette charge, jusqu'à l'obtention d'une charge complète.

Titre requis

Docteur à thèse en sciences mathématiques ou en sciences de l'ingénieur (de préférence en mathématiques appliquées).

Compétences requises

- Vous avez une ancienneté scientifique de 4 années minimum au moment de l'engagement.
- Vous pouvez faire état d'une expérience post-doctorale et d'un excellent dossier scientifique.
- Si vous avez effectué une mobilité en dehors de l'institution où a été réalisé votre doctorat (durant la période doctorale ou après), celle-ci sera prise en compte lors de l'évaluation de votre dossier.
- Vous parlez couramment la langue française (niveau C1) et vous êtes capable d'enseigner couramment en français. Votre niveau d'anglais est de B2 minimum.

Intéressé·e ?

Des renseignements complémentaires peuvent être obtenus auprès de M. Frédéric ROBERT, doyen de l'EPB (téléphone : +32 2 650.40.94 – courriel : le-doyen-polytech@ulb.be).

Le dossier de candidature doit être transmis sous format électronique, via l'envoi d'un mail unique adressé au Rectorat de l'Université libre de Bruxelles (à l'adresse rectrice@ulb.be) et au Décanat de la Faculté à l'adresse suivante : le-doyen-polytech@ulb.be .

Il contiendra les pièces suivantes :

- une lettre de motivation
- un Curriculum vitae :
  si vous le souhaitez un formulaire type peut être complété via le site internet : https://www.ulb.be/fr/documents-officiels/completer-votre-cv-en-ligne. *Une fois complété, celui-ci doit être téléchargé et joint au dossier de candidature.*
- un rapport de 7000 signes (ou 4 pages) environ sur les activités de recherche et un projet de recherche, en ce compris l'insertion envisagée au sein des équipes de recherche de l'Ecole polytechnique de Bruxelles.
- un dossier d'enseignement comprenant un rapport de 7000 signes (ou 4 pages) environ sur les activités d'enseignement antérieures et un projet d'enseignement pour les 5 premières années du mandat, qui s'intègre de manière cohérente dans la vision de l'entité de rattachement et dans les profils d'enseignements des filières de formation auxquelles le candidat devra contribuer
- une note sur les réalisations et projets internationaux (4 pages maximum)
- les noms et adresses mail de contact de cinq personnes de référence susceptibles d'être contactées par les organes chargés d'évaluer les dossiers, en veillant à l'équilibre des genres. Ces personnes ne peuvent être en conflit d'intérêt en raison de liens familiaux ou affectifs.
- Le candidat retenu pourra être amené à présenter des attestations de prestations antérieures permettant de justifier une ancienneté scientifique de 4 ans

La nomination, dans le cadre académique de l'ULB, se fait au rang de premier assistant si le/la candidat.e est Docteur.e à thèse depuis moins de huit ans (au 1er octobre de l'année de la nomination). Si le/la candidat.e est Docteur.e à thèse depuis au moins huit ans, au 1er octobre de l'année de la nomination, la nomination se fait au rang de chargé de cours. Dès leur nomination, les membres du corps académique sont autorisé.e.s à porter, à titre honorifique, le qualificatif de professeur.e.

Politique d'égalité des chances

La politique de gestion du personnel de l'ULB est axée sur la diversité et l'égalité des chances.

Nous recrutons les candidat·es en fonction de leurs compétences, indépendamment de leur âge, leur genre, leur orientation sexuelle, leur origine, leur nationalité, leurs convictions, leur handicap, etc.

Vous souhaitez bénéficier d'aménagements raisonnables dans le cadre de la procédure de sélection en raison d'un handicap, d'un trouble ou d'une maladie ? N'hésitez pas à prendre contact avec Marie Botty, la personne ressource Genre et Diversité du Département des ressources humaines – SPES (marie.botty@ulb.be). Soyez assuré·e de la confidentialité de cette information.

Plus de détails sur les politiques de genre et de diversité sont disponibles sur https://www.ulb.be/fr/l-ulb-s-engage/diversites.

Vous trouverez l'ensemble des dispositions relatives aux carrières du corps académique sur notre site à l'adresse http://www.ulb.ac.be/emploi/academique.html.