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### **EDUCATION**

- Université Laval, Québec, Canada, *Ph.D. in Mathematics (Number Theory)*, 1997.  
Advisor: Prof. Claude Levesque  
Title: ***On the solutions of families of Diophantine equations***
- Université Laval, Québec, Canada, *MS in Mathematics (Number Theory)*, 1994.  
Advisor: Prof. Claude Levesque  
Title: ***On quadratic forms***
- Université d'Abidjan, Cote d'Ivoire, *DEA in Mathematics (Differential Geometry)*, 1988.  
Advisor: Prof. Ba Boubacar  
Title: ***On linear connections***
- Université Nationale du Bénin, *Teaching Certificate*, 1985.
- Université Nationale du Bénin, *BS in Mathematics*, 1984.

### **EXPERIENCE**

2010-Present: *Professor of Mathematics*, Purdue University Northwest, Westville, IN USA.  
2018-2020: *Chair of PNW Faculty Research Board*.  
2006-2010: *Associate Professor of Mathematics*, Purdue University North Central, Westville, IN USA.  
2003-2006: *Assistant Professor of Mathematics*, Purdue University North Central, Westville, IN USA.  
1999-2003: *Assistant Professor of Mathematics*, Greenville College, Greenville, IL USA.  
1999-1999: *Mathematics Instructor of Mathematics*, Babson College, Wellesley, MA USA.  
1992-1997: *Teaching and Research Assistant*, Laval University, Canada.  
1985-1992: *Mathematics teacher*, High school of Beoumi, Ivory Coast.  
1983-1985: *Mathematics teacher (part-time)*, High school of Segbeya, Cotonou, Benin.

### **PUBLICATIONS**

1. (with B. Faye, F. Luca, S. Rihane) ***The Diophantine equations  $P_n^x + P_{n+r}^y = P_m^x$  or  $P_n^y + P_{n+r}^x = P_m^x$*** , Accepted to appear in Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales. Serie A. Matemáticas.
2. (with Adedji, Filipin, Bliznac Trebješnin) On the D(4)-pairs  $\{a, ka\}$  with  $k$  in  $\{2,3,6\}$ . Accepted to appear in Glasnik Matematički.
3. (with N. Adedji, A. Filipin) ***Fibonacci and Lucas numbers as products of three repdigits in base  $g$*** , Accepted to appear in Rendiconti del Circolo Matematico di Palermo Series 2.
4. (with N. Adedji, J. Odjoumani) ***Padovan or Perrin numbers as products of two generalized Lucas numbers***, Accepted to appear in Archivum Mathematicum (BRNO).
5. (with F. Luca, J. Odjoumani), ***Tribonacci numbers that are products of two Fibonacci numbers***, Accepted to appear in the Fibonacci Quarterly.
6. (with M. N. Faye, S. Rihane) ***On repdigits which are sum or difference of two  $k$ -Pell numbers***, Accepted to appear in Mathematica Slovaca.
7. (with N. K. Adedji, F. Luca) ***On the solutions of the Diophantine equation  $P_n \pm a \left(\frac{10^m-1}{9}\right) = k!$*** , Accepted to appear in European Journal of Mathematics.

8. (with B. Normenyo, S. Rihane) **Common terms of  $k$ -Pell numbers and Padovan or Perrin numbers**, Accepted to appear in Arabian Journal of Mathematics.
9. (with S. Rihane)  **$k$ -Fibonacci numbers which are Padovan or Perrin numbers**. Accepted to appear in the Indian Journal of Pure and Applied Mathematics.
10. (with S. Rihane, E. Tchammou) **Pell-Lucas numbers as sum of same power of consecutive Pell numbers**, Accepted to appear in Mediterranean Journal of Mathematics.
11. (with V. Dossou-Yovo, A. Nitaj) **Improved Cryptanalysis of RSA**, Accepted to appear in Journal of Discrete Mathematical Sciences & Cryptography.
12. (with S. Nansoko, E. Tchammou), **Balancing numbers as sum of same power of consecutive balancing numbers**, Accepted to appear in Vietnam Journal of Mathematics.
13. (with E. Tchammou) **On the Diophantine equation  $\sum_{j=1}^m jF_{k,j}^p = F_{k,n}^q$** . Accepted to appear in Periodica Mathematica Hungarica.
14. (with N. Adedji, A. Filipin, S. Rihane) **Fibonacci or Lucas numbers which are concatenations of two  $g$ -repdigits**. The Fibonacci Quarterly, 61 (2023), no. 1, 68–83.
15. (with N. K. Adedji, V. Dossou-yovo, S. Rihane) **Padovan or Perrin numbers that are concatenations of two distinct  $b$ -repdigits**, Mathematica Slovaca 73 (2023), No. 1, 1-16.
16. (with S. Yang) **Odd deficient-perfect numbers with four distinct prime factors**. Integers Journal (2023) #A5.
17. (with V. Dossou-Yovo, A. Nitaj) **Finding Points on Elliptic Curves with Coppersmith's method**, International Conference on Algebraic Informatics CAI 2022, [Algebraic Informatics](#) pp 69–80.
18. (with N. K. Adedji, F. Luca) **On the solutions of the Diophantine equation  $F_n \pm a \left(\frac{10^m-1}{9}\right) = k!$** , Journal of Number Theory, [Volume 240](#), November 2022, Pages 593-610.
19. (with B. Kafle, S. Rihane) **Padovan and Perrin numbers of the form  $x^a \pm x^b + 1$** , Annales Mathematicae Informaticae 55 (2022) pp. 158-171.
20. (with F. Luca, E. Tchammou), **On an exponential Diophantine equation involving powers of consecutive terms of the Padovan sequence**, Publicationes Mathematicae Debrecen. 2022 / 101 / 3-4 (11) - p. 451-475 - DOI: 10.5486/PMD.2022.9292.
21. (with B. He, Y. L. Mao) **A Fibonacci Version of Wolstenholme's Harmonic Series Congruence**, The American Mathematical Monthly, 130:1, 83-85, DOI: 10.1080/00029890.2022.2128165
22. (with B. Faye, C. A. Gomez, F. Luca, S. E. Rihane) **Complete solutions of the exponential Diophantine equation  $P_n^x + P_{n+1}^x = P_m^y$** . Mathematical Communications 27 (2022), 163–185.
23. (with N. K. Adedji, A. Filipin), **The Problem of the Extension of  $D(4)$ -Triple  $\{1, b, c\}$** . RAD HAZU. MATEMATIČKE ZNANOSTI, Vol. 26 = 551 (2022): 21-43.
24. (with F. Luca, E. Tchammou), **On the exponential Diophantine equation  $F_n^x + F_{n+1}^x + \dots + F_{n+k-1}^x = F_m$** , Functiones et Approximatio Commentarii Mathematici 66 (2), 139-159, (June 2022).
25. (with S. Rihane) **An exponential Diophantine equation involving the sum or difference of powers of two Pell numbers**. Mathematica Slovaca, Volume 72 Issue 3 2022, 813-829.
26. (with M. Hernane, S. Rihane, S. Seffah) **On Fermat and Mersenne numbers expressible as product of two  $k$ -Fibonacci numbers**, Boletín de la Sociedad Matemática Mexicana volume 28, Article number: 36 (2022).
27. (with G. Walsh) **A Classical Approach To A Parametric Family Of Simultaneous Pell Equations With Applications To A Family Of Thue Equations**, Boletín de la Sociedad Matemática Mexicana, 28, Article number: 4 (2022).
28. (with N. Irmak) **Factorials as repdigits in base  $b$** , The Notes on Number Theory and Discrete Mathematics 2022, Volume 28, Number 1, 21–25.
29. (with S. Rihane) **Padovan and Perrin numbers as product of two repdigits**, Boletín de la Sociedad Matemática Mexicana volume 28, Article number: 51 (2022).
30. (with A. Gueye, S. Rihane) **Coincidence Between  $k$ -Fibonacci Numbers and Products of Two Fermat Numbers**, Bulletin of the Brazilian Mathematical Society, New Series, 53, 541–552 (2022).
31. (with N. K. Adedji, A. Filipin) **The extension of the  $D(-k)$ -triple  $\{1, k, k+1\}$  to a quadruple**, Acta Mathematica Hungarica, 166 (2) (2022), 407–422.

32. (with N. K. Adedji, A. Filipin), *On the Family of Diophantine Pairs  $\{P_{2k}, 2P_{2k+2}\}$* . The Fibonacci Quarterly, 60, No. 1, (2022), 25-39.
33. (with S. Rihane), *On the intersection of  $k$ -Lucas sequences and some binary sequences*. Periodica Mathematica Hungarica, **84**, 125–145 (2022).
34. (with D. Meguedmi, S. Rihane) *Generalization of a theorem of Adegbindin, Luca and Togbe*, Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales. Serie A. Matemáticas, 116, 36 (2022).
35. (with F. Luca, S. Rihane) *There are no Diophantine quadruples of Pell numbers*, International Journal of Number Theory, Vol. 18, No. 1 (2022) 27–45.
36. (with S. Nansoko, E. Tchammou), *The Diophantine equation  $\sum_{j=1}^k jF_j^p = L_n^q$* , Integers Journal (2022) #A 5.
37. (with S. Rihane, E. Tchammou) *On the system of Pell equations  $x^2 - (a^2b^2 \mp a)y^2 = 1$  and  $y^2 - pz^2 = 4b^2$* , Indian Journal of Pure and Applied Mathematics volume 52, pages 224–230 (2021).
38. (with C. Adegbindin, F. Luca), *Pell and Pell-Lucas numbers as sums of three repdigits*. Acta Math. Univ. Comenianae, Vol. XC, 1 (2021), 7-25.
39. (with E. Tchammou) *On some Diophantine equations involving balancing numbers*. Archivum Mathematicum (BRNO), Tomus 57 (2021), 113–130.
40. (with N. K. Adedji, A. Filipin), *Padovan and Perrin numbers and products of two repdigits in base  $b$* . Results in Mathematics, **76**, Article number: 193 (2021).
41. (with A. Gueye, S. Rihane) *An exponential equation involving  $k$ -Fibonacci numbers*, Turkish Journal of Mathematics, 45, (2021), 2664-2677.
42. (with Z. Zhang), *On the Ramanujan-Nagell type Diophantine equation  $Dx^2+k^n=B$* , Glasnik Matematicki, Vol. 56, No. 2 (2021), 263-270.
43. (with B. Normenyo, S. Rihane) *Fermat and Mersenne numbers in  $k$ -Pell sequence*, Matematychni Studii, V.56, No.2 (2021), 115-123.
44. (with S. Rihane) *On the intersection of Padovan, Perrin sequences and Pell, Pell-Lucas sequences*. Annales Mathematicae et Informaticae, 54 (2021), 57–71.
45. (with B. Kafle, F. Luca), *Corrigendum to “Pentagonal and Heptagonal Repdigits” [Annales Mathematicae et Informaticae 52 (2020) 137-145]*. Annales Mathematicae et Informaticae, 54 (2021), 15–16.
46. (with M. Hernane, S. Rihane) *A parametric family of quartic Thue inequalities*, The Notes on Number Theory and Discrete Mathematics, Vol. 27, 2021, No. 4, 1–14.
47. (with S. Rihane) *Repdigits as products of consecutive Padovan or Perrin numbers*. Arabian Journal of Mathematical (2021) 10, 469-480.
48. (with M. Hernane, S. Rihane) *Solutions of class of quartic Thue inequalities*, Boletín de la Sociedad Matemática Mexicana 27, 57 (2021).
49. (with N. Adedji, B. He, A. Pinter) *On the Diophantine Pair  $\{a, 3a\}$* , Journal of Number Theory [Volume 227](#), October 2021, Pages 330-351.
50. (with C. Adegbindin, S. Rihane), *Generalized Lucas numbers of the form  $3*2^m$* . The Notes on Number Theory and Discrete Mathematics, Volume 27, 2021, Number 2, Pages 129-136.
51. (with B. Kafle, S. Rihane) *A note on Mersenne Padovan and Perrin numbers*. The Notes on Number Theory and Discrete Mathematics, Vol. 27, 2021, No. 1, 161–170.
52. (with H. Aboudja, M. Hernane, S. Rihane), *On perfect powers that are sums of two Pell numbers*. Periodica Mathematica Hungarica, (2021) 82: 11–15.
53. (with A. Noubissie), *On some ternary Diophantine equations of Signature  $(p, p, k)$* . Bulletin of the Malaysian Mathematical Sciences Society (2021) 44: 163-170.
54. (with B. Kafle, F. Luca), *Pentagonal and Heptagonal Repdigits*. Annales Mathematicae et Informaticae 52 (2020) 137-145.
55. (with F. Luca, E. Tchammou) *On the exponential Diophantine equation  $P_n^x + P_{n+1}^x + \dots + P_{n+k-1}^x = P_m$* . Mathematica Slovaca 70 (2020) N. 6 1333-1348.

56. (with C. Adegbindin), *Can a Lucas number be a sum of three repdigits?* Commentationes Mathematicae Universitatis Carolinae, vol. 61, no. 3 (2020), pp. 383-396.
57. (with E. Tchammou) *On the Diophantine equation  $\sum_{j=1}^k jP_j = P_n^q$ .* Acta Math. Hungar., 162 (2) (2020), 647–676.
58. (with B. Kafle, S. Rihane) *Pell and Pell-Lucas numbers of the form  $x^a \pm x^b + 1$ ,* Boletín de la Sociedad Matemática Mexicana, volume 26, pages 879–893 (2020).
59. (with B. Kafle, A. Srinivasan), *Markoff Equation with Pell components.* Fibonacci Quart. 58 (2020), no. 3, 226–230.
60. (with S. Rihane, B. Faye, F. Luca), *Powers two in Generalized Lucas sequences.* Fibonacci Quart. 58 (2020), no. 3, 254–260
61. (with S. Zhang), *Engineering Application Projects for Teaching Engineering Mathematics and Numerical Methods*, 2020 ASEE Annual Conference and Exposition, Montreal, Quebec, Canada, June 21 - 24, 2020.
62. (with A. Noubissie, Z. Zhang), *On the Exponential Diophantine Equation  $(a^n-1)(b^n-1)=x^2$ .* The Bulletin of the Belgian Mathematical Society – Simon Stevin 07/2020; 27 (2) 161-166.
63. (with S. Rihane, C. Adegbindin) *Fermat Padovan and Perrin numbers*, Journal of Integer Sequences, Vol. 23 (2020) Article 20.6.2.
64. (with S. G. Rayaguru, G. K. Panda), *On Diophantine, Pronic and Triangular Triples of Balancing Numbers.* Mathematical Communications, [Vol 25, No 1 \(2020\)](#), 137-155.
65. (with B. Kafle, F. Luca), *Lucas Factoriangular numbers.* Mathematica Bohemica, 145 N. 1 (2020) 33-43.
66. (with C. Adegbindin, F. Luca), *Pell and Pell-Lucas numbers as sums of two repdigits.* Bull. Malays. Math. Sci. Soc. (2020) 43:1253–1271.
67. (with Eric Bravo, Carlos Gomez, Bir Kafle, F. Luca), *On a conjecture concerning the multiplicity of the Tribonacci sequence.* Colloquium Mathematicum, 159 (2020), 61-69.
68. (with S. Rihane, B. Faye, F. Luca), *An exponential Diophantine equation related to the difference between powers of two consecutive Balancing numbers.* Annales Mathematicae et Informaticae, 50 (2019), 167-177.
69. (with A. Noubissie), *A note on the Exponential Diophantine Equation  $(a^n-1)(b^n-1)=x^2$ .* Annales Mathematicae et Informaticae, 50 (2019), 159-165.
70. (with F. Luca, V. Togan), *On the X-coordinates of Pell equations which are rep-digits, II.* Annales Mathematicae et Informaticae, 50 (2019), 131-144.
71. (with B. V. Normenyo, B. Kafle), *Repdigits as sums of two Fibonacci numbers and two Lucas numbers.* Integers Journal 19 (2019), #55.
72. (with B. Kafle, F. Luca), *x-coordinates of Pell equations which are Lucas numbers.* Boletín de la Sociedad Matemática Mexicana (2019) 25:481–493.
73. (with B. Kafle, F. Luca), *x-coordinates of Pell equations which are Tribonacci numbers II.* Periodica Mathematica Hungarica (2019) 79:157–167.
74. (with C. Adegbindin, F. Luca), *Lucas numbers as sums of two repdigits.* Lithuanian Mathematical Journal, Vol. 59, No. 3, July 2019, pp. 295–304.
75. (with S. Rihane, B. Faye, F. Luca), *On the exponential equation  $P_n^x + P_{n+1}^x = P_m$ .* Turk J Math, 43, (2019), 1640-1649.
76. (with B. Kafle, F. Luca, A. Montejano, L. Szalay), *On the X-coordinates of Pell equations which are products of two Fibonacci numbers.* Journal of Number Theory, **203** (2019), 347-387.
77. (with Y. Bilu, M. Diego), *Generalized Cullen Numbers in Linear Recurrence Sequences.* Journal of Number Theory, **202** (2019), 412-425.
78. (with B. He, J. Odjoumani), *On a class of quartic Thue equations with three parameters,* Journal of Number Theory, **202** (2019), 310-333.
79. (with B. V. Normenyo, F. Luca), *Repdigits as sums of four Pell numbers.* Boletín de la Sociedad Matemática Mexicana (2019) 25, 249–266.
80. (with S. Yang, F. Luca), *On a Divisibility Problem.* Mathematica Bohemica 144 (2) (2019), 125-135.

81. (with F. Luca, J. Odjoumani), *Pell Factoriangular numbers*. Publ. Inst. Math. Beograd. Nouvelle série, tome 105(119) (2019), 93–100.
82. (with S. Rihane, M. Hernane), *On Diophantine triples of Pell numbers*. Colloquium Mathematicum 156 (2019). 273-285.
83. (with B. Normenyo, F. Luca) *Repdigits as sums of three Lucas number*. Colloquium Mathematicum 156 (2019). 255-285.
84. (with B. He, V. Ziegler), *There is no Diophantine Quintuple*. Transactions of the American Mathematical Society, Volume 371, Number 9, May 2019, Pages 6665–6709.
85. (with S. Subburam), *On the Diophantine equation  $y^n = f(x)/g(x)$* . Acta Mathematica Hungarica, 157(1), (2019) 1-9.
86. (with J. Odjoumani, V. Ziegler), *On a family of biquadratic fields that do not admit a unit power integral basis*. Publicationes Mathematicae Debrecen, 2019 / 94 / 1-2 (1).
87. (with Z. Zhang), *Perfect Powers that are sums of two powers of Fibonacci numbers*. The Bulletin of the Australian Mathematical Society, Volume 99, Issue 1 February 2019, pp. 34-41.
88. (with S. Rihane, M. Hernane), *The x-coordinates of Pell equations and Padovan numbers*. Turk J Math, 43, (2019), 207-223.
89. (with B. He, K. Pu, R. Shen), *A note on the regularity of the Diophantine pair  $\{k, 4k \pm 4\}$* . Journal de Théorie des Nombres de Bordeaux [30](#) no. 3 (2018), p. 879-892.
90. (with B. Kafle, F. Luca), *Triangular repblocks*. The Fibonacci Quarterly 56 (2018), no. 4, 325–328.
91. (with S. Rihane, M. Hernane, F. Luca), *On Pillai's problem with Pell numbers and powers of 2*. Hardy-Ramanujan Journal 41 (2018), 8-17.
92. (with Z. Zhang), *On the Ramanujan-Nagell type Diophantine equations  $x^2 + Ak^n = B$  II*. Glas. Mat. Ser. II, Vol. 53 No 2, (2018) 221-228.
93. (with B. V. Normenyo, F. Luca), *Repdigits as sums of four Fibonacci or Lucas numbers*. Journal of Integer Sequences, Vol. 21 (2018), Article 18.7.7.
94. (with B. Normenyo, F. Luca), *Repdigits as sums of three Pell numbers*. Periodica Mathematica Hungarica, December 2018, Volume 77, [Issue 2](#), pp 318–328.
95. (with N. Irmak), *On repdigits as product of consecutive Lucas Numbers*. The Notes on Number Theory and Discrete Mathematics, Vol. 24, 2018, No. 3, 95–102.
96. (with Z. Zhang), *On the Ramanujan-Nagell type Diophantine equations  $x^2 + Ak^n = B$* . Glas. Mat. Ser. II, Vol. 53 No 1, (2018) 43-50.
97. (with S. E. Rihane, M. O. Hernane), *On  $D(4)$ -Diophantine triples of Fibonacci numbers*. The Fibonacci Quarterly, 56 (2018), no. 1, 63-74.
98. (with F. Luca), *On the x-coordinates of Pell equations which are Fibonacci numbers*. Mathematica Scandinavica, Vol. 122, No. 1 (2018) 18-30.
99. (with B. He, A. Pinter, S. Yang), *Another generalization of a theorem of Baker and Davenport*. J. Number Theory **182** (2018), 325-343.
100. (with A. Bayad, A. Dossavi-Yovo, A. Filipin), *On the extensibility of the  $D(4)$ -triple  $\{k-2, k+2, 4k\}$  over Gaussian integers*. Notes on Number Theory and Discrete Mathematics, Vol. 23, 2017, No. 3, 1–26.
101. (with L. Tan, V. Vijayarajan, N. Chimitt, J. Jiang), *Channel sparsity-aware recursive least squares algorithms for nonlinear system modeling and active noise control*. 2017 IEEE Ubiquitous Computing, Electronics and Mobile Communications (UEMCON 2017), pp. 225-231, Columbia University, New York City, NY, October 2017.
102. (with F. Luca, A. Montejano, L. Szalay), *On the X-coordinates of Pell equations which are Tribonacci numbers*. Acta Arithmetica, 179.1 (2017), 25-35.
103. (with Nicholas Chimitt, William Misch, Li Tan, and Jean Jiang), *Comparative Study of Simple Feature Extraction for Single-Channel EEG Based Classification*. 2017 IEEE International Conference on Electro/Information Technology, pp. 166-170, University of Nebraska, Lincoln, Nebraska, May 2017.
104. (with G. Soydan, M. Demirci, I. Cangul), *On the conjecture of Jesmanowicz*. Int. J. Appl. Math. Stat., Vol. 56, Issue No. 6, Year 2017.
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110. (with Z. Zhang), *On two Diophantine equations of Ramanujan-Nagell type*. Glas. Mat. Ser. III, Vol. 51, No.1 (2016), 17-22.
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112. (with H. Godinho, D. Marques), *On the Diophantine equation  $x^2 + C = y^n$  for  $C = 2^a 3^b 17^c$  and  $C = 2^a 13^b 17^c$* . Mathematica Slovaca, Volume 66, Issue 3 (Jun 2016), 565–574.
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116. (with A. Dossavi-Yovo, F. Luca), *On the  $x$ -coordinates of Pell equations which are rep-digits*. Publicationes Mathematicae Debrecen, 2016 / 88 / 3-4 (9).
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131. (with B. He, I. Pink, A. Pinter) *On the Diophantine inequality  $|X^2 - cXY^2 + Y^4| \leq c+2$* . Glasnik Matematicki, Vol. 48, No.2 (2013), 291-299.

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133. (with D. Marques), *Fibonacci and Lucas numbers of the form  $2^a + 3^b + 5^c$* . Proceedings of Japan Mathematics Academy, 89 Ser. A (2013) 47-50.
134. (with H. Godinho, D. Marques), *On the Diophantine equation  $x^2 + 2^a 5^b 17^c = y^n$* . Communications in Mathematics journal, 20 (2012) 81-88.
135. (with D. Marques), *On repdigits as product of consecutive Fibonacci numbers*. Rendiconti dell' Istituto di Matematica dell' Universita' di Trieste, Volume 44 (2012), 393-397.
136. (with Y. Fujita), *The extension of the  $D(-k^2)$ -pair  $\{k^2, k^2+1\}$* . Periodica Mathematica Hungarica, Volume 65, Issue 1, September 2012, 75-81.
137. (with T. Miyazaki), *The Diophantine equation  $(2am-1)^x + (2m)^y = (2am+1)^z$* . International Journal of Number Theory, Vol. 08, No. 08, (2012) 2035-2044.
138. (with M. Le, H. Zhu), *On the exponential Diophantine equation  $x^2 + p^{2m} = 2y^n$* . The Bulletin of the Australian Mathematical Society, Volume 86, Issue 02, October 2012, 303 - 314.
139. (with D. Marques), *On the sum of powers of consecutive terms of a linear recurrence sequence*. Bull Braz Math Soc., New Series 43(3), (2012) 397-406.
140. (with A. Filipin, B. He) *On a family of two-parametric  $D(4)$ -triples*. Glas. Mat. Ser. III, Vol. 47, No.1 (2012), 31-51.
141. (with B. He) *On a family of Diophantine triples  $\{k, A^2k+2A, (A+1)^2k+2(A+1)\}$  with two parameters II*. Periodica Mathematica Hungarica, 64 No. 1, (2012), 1-10.
142. (with D. Marques), *A Diophantine equation involving  $C$ -nomial coefficients*. East-West J. of Mathematics, Vol. 13, No 1 (2011) 75-79.
143. (with Y. Fujita), *Uniqueness of the extension of the  $D(4k^2)$ -triple  $\{k^2-4, k^2, k^2+4\}$* . Notes on Number Theory and Discrete Mathematics, 17 No. 4 (2011), 42-49.
144. (with A. Bajolet, B. Dupuy, F. Luca), *On the Diophantine equation  $x^4 - q^4 = py^r$* . Publicationes Mathematicae Debrecen, 79/3-4 (2011) 269-282.
145. (with P. Yuan), *On a variant of a Diophantine equation of Cassels*. Glas. Mat. Ser. III, Vol. 46, No.2 (2011), 325-331.
146. (with D. Marques), *On terms of linear recurrence sequences with only one distinct block of digits*. Colloquium Mathematicum, 124 (2011), 145-155.
147. (with B. He, O. Kihel), *Solutions of a class of quartic Thue inequalities*. Computers and Mathematics with Applications 61 (2011) 2914-2923.
148. (with M. Cipu, M. Mignotte), *On the size of the intersection of two Lucas sequences of Distinct type II*. Science China Mathematics 54 (2011) 1299-1316.
149. (with K. A. Broughan, M. J. Gonzalez, R. H. Lewis, F. Luca, J. M. Huguët) *There are no multiply-perfect Fibonacci numbers*. INTEGERS 11, (2011), 363-397.
150. (with S. Yang), *On a conjecture of the power series coefficients of the function  $U(n, x)$* . Annales des sciences mathématiques du Québec, 35, no. 1 (2011), 137-40.
151. (with B. He) *On the positive integer solutions of the exponential Diophantine equation  $a^x + (3a^2 - 1)^y = (4a^2 - 1)^z$* . Advances in Mathematics (Chinese) Vol. 40, No. 2, (2011), 227-234.
152. (with B. He, P. G. Walsh) *On the size of the intersection of two Lucas sequences of distinct type*. Annales des sciences mathématiques du Québec, 35, no. 1 (2011), 31-61.
153. (with J. Luo, P. Yuan), *On some equations related to Ma's conjecture*. INTEGERS 11A, (2011), Article 27.
154. (with S. Yang, B. He), *Diophantine equations with products of consecutive values of a quadratic polynomial*. Journal of Number Theory, 131, no. 10, (2011) 1840-1851.
155. (with B. He) *On the  $D(-1)$  triple  $\{1, k^2+1, k^2+2k+2\}$  and its unique  $D(1)$ -extension*. Journal of Number Theory, Volume 131, Issue 1, (2011) 120-137.
156. (with D. Marques), *On the sum of powers of two consecutive Fibonacci numbers*. Proceedings of Japan Mathematics Academy, Ser A, December 2010, 174-176.
157. (with S. Yang, B. He), *A note on the Diophantine equation  $|a^x - b^y| = c$* . Mathematica Scandinavica Volume 107, Number 2, (2010) 161-173.
158. (with B. He, M. Ulas) *On the Diophantine equation  $z^2 = f(x)^2 \pm f(y)^2$  II*. The Bulletin of the Australian Mathematical Society 82 (2010) 187-204.
159. (with B. He, P. Yuan) *On the Diophantine equation  $X^2 - (p^{2m} + 1)Y^6 = -p^{2m}$* . Functiones et Approximatio Commentarii Mathematici Volume 43, Number 1 (2010), 31-44.

160. (with A. Filipin, B. He) *On the  $D(4)$ -triple  $\{F_{2k}, F_{2k+6}, 4F_{2k+4}\}$* . Fibonacci Quart. 48 (2010), no. 3, 219–227.
161. (with D. Marques) *Perfect Powers among Fibonomial Coefficients*. C. R. Acad. Sci. Paris, Ser. I 348 (2010) 717–720.
162. (with B. He) *On the number of solutions of the Diophantine equation  $ax^m - by^n = c$* . The Bulletin of the Australian Mathematical Society, (2010), 81 177-185.
163. (M. Ulas) *On the Diophantine equation  $z^2 = f(x)^2 \pm f(y)^2$* . Publicationes Mathematicae Debrecen 76/1-2 (2010), 183-201.
164. (with O. Kihel, F. Luca) *Variants of the Diophantine Equation  $n! + 1 = y^2$* . Portugaliae Mathematica, Volume 67, Issue 1 (2010), 1-11.
165. (with F. Luca, P. Stanica) *On a Diophantine equation of Stroeker*. Bull. Belg. Math. Soc. Simon Stevin 17 (2010), 1–8.
166. (with F. Luca) *On the Diophantine Equation  $x^4 - q^4 = py^3$* . Rocky Mountain Journal of Mathematics, vol. 40, no. 3, (2010) 995-1008.
167. (with B. He) *A remark on the generalized Ramanujan-Nagell equation  $x^2 - D = k^n$* . Ann. Sci. Math. Québec 33 (2009), no 2, 165-169.
168. (with A. Filipin) *On the family of Diophantine triples  $\{k+2, 4k, 9k+6\}$* . Acta Mathematica Academiae Paedagogicae Nyiregyháziensis, Vol. 25, No. 2, (2009), 145-153.
169. (with B. He, B. Jadrijevic) *Solutions of a class of quartic Thue inequalities*. Glas. Mat. Ser. III, Vol. 44 (64) (2009), 309 – 321.
170. (with F. Luca, S. Tengely) *On the Diophantine Equation  $x^2 + C = 4y^n$* . Ann. Sci. Math. Québec 33 (2009), no 2, 171-184.
171. (with B. He) *The Diophantine equation  $n^x + (n+1)^y = (n+2)^z$  revisited*. The Glasgow Mathematical Journal, Volume 51, Issue 03, September 2009, 659-667.
172. (with S. Yang, B. He), *A  $2 \times 2$  Lattice space-time code of the highest rank*. Proceedings of the American Mathematical Society, 137 (2009), 3601-3607.
173. *On the positive integral solutions of the Diophantine equation  $x^3 + by + 4 - xyz = 0$* , African Diaspora Journal of Mathematics, 8 (2009), No. 1, 81-89.
174. (with B. He) *On a family of Diophantine triples  $\{k, A^2k+2A, (A+1)^2k+2(A+1)\}$  with two parameters*. Acta Mathematica Hungarica., 124 (1-2) (2009), 99-113.
175. (with F. Luca) *On the Diophantine equation  $x^2 + 2^a 13^b = y^n$* . Colloquium Mathematicum, 116 (2009), 139-146.
176. (with S. Akhtari, P. G. Walsh) *Addendum on the equation  $aX^4 - bY^2 = 2$* . Acta Arithmetica 137 (2009), 199-202.
177. (with B. He) *On the family of Diophantine triples  $\{k+1, 4k, 9k+3\}$* . Periodica Mathematica Hungarica, 58 (1) (2009), 59-70.
178. (with B. He, G. P. Walsh) *On the Diophantine equation  $X^2 - (2^{2m} + 1)Y^4 = -2^{2m}$* . Publ. Math. Debrecen, 73/3-4 (2008) 417-420.
179. (with B. He) *Simultaneous Pellian equations with a single or no solution*, Acta Arith. 134 (2008), 369-380.
180. (with B. He) *On the number of solutions of Goormaghtigh equation for given  $x$  and  $y$* . Indag. Mathem., N.S., 19 (1) (2008), 65-72.
181. *On the solutions of a parametric family of cubic Thue equations*. Bull Braz Math Soc, New Series 39 (4) (2008), 537-554 and Volume 46, Issue 1, March 2015, 159-161.
182. (with F. Luca) *On the positive integral solutions of the Diophantine equation  $x^3 + by + 1 - xyz = 0$* . Bull. Malays. Math. Sci. Soc. (2) 31 (2) (2008), 129–134.
183. (With F. Luca) *On the Diophantine equation  $x^2 + 2^a 5^b = y^n$* . Int. J. Number Theory, 4, (6) (2008), 973-979.
184. (with E. Goins and F. Luca) *On the Diophantine Equation  $x^2 + 2^a 5^b 13^c = y^n$* . ANTS VIII Proceedings: A.J. van der Poorten and A. Stein (eds.), ANTS VIII, Lecture Notes in Computer Science 5011 (2008), 430-442.
185. (With F. Luca) *On binary palindromes of the form  $10^n \pm 1$* . C. R. Acad. Sci. Paris, Ser. I 346 (2008) 487–489.
186. (With F. Luca) *On the numbers of the form  $\pm x^2 \pm y!$* . Diophantine Equation, Editor: N. Saradha, Narosa Publishing House, (2008), pp. 135-149.
187. (With S. Akhtari, P.G. Walsh) *On the equation  $aX^4 - bY^2 = 2$* . Acta Arith. 131 (2008), 145-169.



188. (With F. S. Abu Muriefah and F. Luca) *On the Diophantine equation  $x^2 + 5^n 13^b = y^n$* . The Glasgow Mathematical Journal, Volume 50, Issue 01, January 2008, pp 175-181.
189. (With F. Luca) *On the Diophantine equation  $x^2 + 7^{2k} = y^n$* . The Fibonacci Quarterly Vol. 54.4 (2007) 322-326.
190. (with E. Goins) *On Pythagorean Quadruplets*. International Journal of Pure and Applied Mathematics, Volume 35, No. 3 (2007), 363-372.
191. *A parametric family of sextic Thue equations*. Acta Arith. 125 (2006), 347-361.
192. *A Note on the Diophantine Equation  $x! + A = y^2$  II*. International Journal of Applied Mathematics & Statistics, Vol. 6, No. D06 (2006), 25-32.
193. *Complete Solutions of a Family of Cubic Thue Equations*. Journal de Theorie des Nombres de Bordeaux 18 (2006), 285-298 and Volume 28, number 1 (2016), 287-288.
194. (With M. Bennett, G. P. Walsh) *A generalization of a theorem of Bumby on quartic Diophantine equations*. International Journal of Number Theory, Vol. 2, No. 2 (June 2006) 195-206.
195. *A Note on the Diophantine Equation  $x^2 + D = p^n$* . RJooiA, Transactions on Mathematics, Spring 2006, pp. 125-129.
196. *On the solutions of a family of quartic Thue equations II*. C. R. Math. Rep. Acad. Sci. Canada Vol. 28. (1), 2006 pp. 24-32.
197. *A Note on the Diophantine Equation  $x! + A = y^2$* . International Journal of Pure and Applied Mathematics, Volume 26, No. 4 (2006), 565-571.
198. (With P. M. Voutier, G. P. Walsh) *Solving a family of Thue equations with an application to the equation  $x^2 - Dy^4 = 1$* . Acta Arithmetica 120 (2005), 39-58.
199. (With C. Heuberger and V. Ziegler) *Automatic solution of families of Thue equations and an example degree 8*. J. Symbolic Computation 38 (2004), Issue 3, 1145-1163.
200. *A Parametric Family of Cubic Thue Equations*. J. Number Theory 107 (2004), 63-79 and Journal of Number Theory, Volume 150, (May 2015) Pages 206-207.
201. *On the solutions of a family of sextic equations*. Number Theory for the Millennial, Bruce Berndt, et. al., editors, A.K. Peters Ltd, 2002, Volume III, 285-299.
202. *On the solutions of a family of quartic equations*. Math. Comp. 69 (2000), 839-849.
203. *On binary quadratic forms*. Proceedings of the 11<sup>th</sup> Conference of ACMS, 1997, 125-135.

#### GRANTS

1. *Carnegie African Diaspora Fellowship Program* grant \$5,820. (funded) to travel to Ghana.
2. (PI) *A parametric family of quartic Thue equations related with a Lecaheux-Washington field*, 2004 Summer Faculty Grant from Purdue Research Foundation, June-July 2004.
3. (PI) *The 2005-2006 Library Scholars Grant Program. Travel to University Laval, Quebec Canada*.
4. (PI) PRF – International travel grants, 2018, 2019.
5. (co PI) *Research for Undergraduate Students in Mathematics: from Cryptography to Mathematical Biology*, PNW Catalyist Grant, 2019.

#### STUDENTS

1. Master degree student Jocelyn Cakpo at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Title: *Applications of Fibonacci numbers (Generalized k-Fibonacci numbers)*.
2. Master degree student Beni Kougnankou at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Title: *Applications of Pell numbers (Generalized k-Pell numbers)*.
3. Master degree student Timothe Tassigue at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Title: *Diophantine Approximation*.
4. Master degree student Lucien Takouda at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Title: *Number of integers represented by families of binary forms*.
5. Master degree student Romeo Adjakidje at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Title: *Group structure on conics*.
6. Master student Abigail Havor, AIMS Ghana, Accra, Ghana. Defense on June 20, 2022. Title: *On Pillai's problem*.
7. Master student Keneth Mayombwe, AIMS Ghana, Accra, Ghana. Defense on June 15, 2022. Title: *Application of Linear forms in logarithms to solve Diophantine Problems*.

8. Ph.D. degree student Mohamadou Bachabi at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Title: ***On Baker's method.***
9. Ph.D. student Mariama Ndao Faye (with Prof. Mohamed Ben Maaouia) at Université Gaston Berger, St Louis, Senegal.  
Title: ***On some Diophantine equations involving k-generalized sequences.***
10. Ph.D. student Safia Seffah (with Prof. Mohand Hernane) at Université des Sciences et de la Technologie, Alger, Algérie.  
Title: ***Sur certaines équations diophantiennes impliquant des suites.***
11. Ph.D. student Alioune Gueye (with Prof. Mohamed Ben Maaouia) at Université Gaston Berger, St Louis, Senegal.  
Title: ***On some Diophantine equations involving sequences.***
12. Master degree student Mohamadou Bachabi at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Defense on October 24, 2022. Title: ***On Baker's method.***
13. Ph.D. student NANSOKO Soulmeymane at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin.  
Title: ***On some Diophantine equations.***
14. Ph.D. student (with Prof. Alan Filipin) Kouessi Norbert Adedji at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Defense on August 10, 2022.  
Title: ***On Diophantine Sets and other Diophantine equations.***
15. Ph.D. student (with Prof. Abderrahmane Nitaj) Virgile Sedjro Romuald Dossou-Yovo at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin.  
Title: ***Post Quantum Cryptography.***
16. Master student Médard GOVOEYI at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Defense on September 2, 2021.  
Title: ***Application of linear forms in logarithms to solve Diophantine equations.***
17. Ph.D. student Euloge Bagnantissoun Tchammou at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Defense on August 4, 2021.  
Title: ***Systems of Pellian equations and other Diophantine equations.***
18. Ph.D. student Chèfiath Awero Adegbindin at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Defense on July 15, 2020.  
Title: ***On the link between some sequences.***
19. Ph.D. student Salah Eddine Rihane (with Prof. Mohand Ouamar Hernane) at Université des Sciences et de la Technologie, Alger, Algérie. Defense on July 12, 2020.  
Title: ***Sur Quelques Problèmes Diophantiens.***
20. Ph.D. student Armand Noubissie at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Defense on July 9, 2020.  
Title: ***Study of Some Exponential Diophantine Equations.***
21. Advisor (with Prof. Abderrahmane Nitaj) of the Master degree student Epiphane K. Nouetowa at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Defense on September 13, 2019.  
Title: ***Secure Implementation Of Electronic Money And Bitcoins.***
22. Advisor (with Prof. Alan Filipin) of the Master degree student Kouessi Norbert Adedji at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Defense on September 13, 2019.  
Title: ***Conjectures on Diophantine Sets.***
23. Advisor (with Prof. Abderrahmane Nitaj) of the Master degree student Virgile Sedjro Romuald Dossou-Yovo at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Defense on September 13, 2019.  
Title: ***Post Quantum Cryptography.***
24. Ph.D. student Benedict Vasco Normenyo at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Defense on May 24, 2019.  
Title: ***Some Results on Repdigits and Lucas Sequences.***
25. Master degree student Serge Raphael Adonsou at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Defense on December 13, 2018.

- Title: ***On Pillai's problem***
26. Master degree student Essohanam Alou at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Defense on December 13, 2018.  
Title: ***Jesmanowicz' conjecture and related problems***
27. Summer Research student Nicholas M Chimitt (with Prof. Li Tan) at Purdue University Northwest, Westville, IN, USA.  
Title: ***Noninvasive EEG-Based Brain Machine Interface with Monitor and Control Applications.***
28. Late Ph.D. student Victorin Togan at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. **(Incomplete)**  
Title: ***Sur Les systemes d'equations de Pell.***
29. Ph.D. student Japhet Odjoumani at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Defense on March 14 2018.  
Title: ***Sur les équations quartiques de Thue et le problème d'UPIB dans un corps biquadratique.***
30. Master degree student Armand Noubissie at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Defense on December 23, 2017.  
Title: ***Pell Equations And Linear Recurrent Sequences.***
31. Ph.D. student Appolinaire Codjo Dossavi-Yovo at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin. Defense on October 12, 2016.  
Title: ***Sur Les Ensembles Diophantiens.***
32. Master degree student Japhet Odjoumani at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin on January, 2015.  
Title: ***La methode de Tzanakis pour etudier une classe d'equations quartiques de Thue.***
33. Master degree student Appolinaire Codjo Dossavi-Yovo at Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin on October 16, 2014.  
Title: ***Sur Les Ensembles Diophantiens.***

#### **ORGANIZED RESEARCH SCHOOLS**

1. Mini School, Dangbo, Benin (03/13-18/2023) Title: ***School of Number Theory and Applications.*** Course: ***Diophantine equations.***
2. CIMPA Research School, MBour, Senegal 2022 (08/15-26/2022) Title: ***Cryptograph, theoretical and computational aspects of Number Theory.*** Course: ***Elementary Number Theory and cryptography.***
3. CIMPA Research School, Dangbo, Benin 2022 (06/12-24/2022) Title: ***Algebra, Arithmetic, and Applications.*** Course: ***Arithmetic functions I.***
4. EMA School, Mbour, Senegal 2021 (09/06-19/2021) Title: ***Introduction to Number Theory, Cryptography, and related courses.*** Course: ***Galois Theory.***
5. CIMPA Research School, Kinshasa, Congo 2018 (05/08-22/2018) Title: ***Arithmétique algorithmique et cryptographie.*** Course: ***Elementary arithmetic and cryptography.***
6. CIMPA Research School, Abidjan, Cote d'Ivoire 2017 (04/10-22/2017) Title: ***Théorie des nombres et Applications, notamment en cryptographie.*** Course: ***Elementary arithmetic and cryptography.***
7. EMA School, Praia, Cape Verde 2015 (04/13-28/2015) Title: ***Algebraic Structures, Cryptography, Number Theory, and Applications.*** Course: ***Théorie élémentaire des nombres et cryptographie.***
8. CIMPA Research School, Dangbo, Benin 2014 (07/7-19/2014) Title: ***Algebraic Number Theory and Applications.*** Course: ***Introduction to elementary arithmetic.***

#### **EVALUATED PH.D. THESE**

1. External reviewer for the defense of the Ph.D. dissertation of Asim Patra at ***National Institute of Technology Rourkela, India***, February 2023.  
Title: ***Algebraic and Probabilistic Aspects of Some Binary Recurrence Sequences.***

2. External reviewer for the defense of the Ph.D. dissertation of EDJEOU Bilizimbele at **Université Gaston Berger, St Louis, Senegal**, July 2022.  
Title: *Sur la résolution d'équations diophantiennes et leur application en cryptographie a clé publique.*
3. External reviewer for the defense of the Ph.D. dissertation of SORO Kolo Foussemi at **Université de Cocody, Abidjan, Ivory Coast**, June 2021.  
Title: *Tableaux de Young et applications: cryptographie et représentations de groupes.*
4. External reviewer for the defense of the Ph.D. dissertation of Manasi Kumari Sahukar at **National Institute of Technology Rourkela, India**, August 2020.  
Title: *A Study on Arithmetic Functions and Diophantine Equations Associated with Balancing and Related Sequences.*
5. External reviewer for the Ph.D. dissertation of Sushree Sangeeta Pradhan at **National Institute of Technology Rourkela, India**, August 2020.  
Title: *Properties of Sequences and Sums Associated with Balancing-like Sequences.*
6. External reviewer for the defense of the Ph.D. dissertation of Adrian William Dudek at **The Australian National University, Canberra, Australia**, April 2016.  
Title: *Explicit estimates in the Theory of Prime Numbers*
7. External reviewer for the Ph.D. dissertation of Sylvain Attan at **Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin**, January 2015.  
Title: *Une généralisation tordue des algèbres de Bol : Les Hom-algèbres de Bol*
8. External reviewer for the defense of the Ph.D. dissertation of Wenyong An at **University of Waterloo, Waterloo, Canada**, May 23, 2014.  
Title: *Families of Thue Inequalities with Transitive Automorphisms*
9. President of the jury for the defense of the Ph.D. dissertation of Donatien Gaparayi at **Institut de Mathématiques et de Sciences Physiques (IMSP), Dangbo, Benin**, August 3, 2013.  
Title: *Hom-algèbres de Lie-Yamaguti.*

#### **OTHER PROFESSIONAL ACTIVITIES**

1. MAA representative (liaison), 2007-2017.
2. Chair MAA Indiana Section 2015-2016.
3. Vice-Chair MAA Indiana Section 2014-2015.
4. Meredith Deters, On knots: An application to DNA, a paper presented at the 19<sup>th</sup> Annual Rose-Hulman Undergraduate Mathematics Conference, Rose-Hulman Institute of Technology, Terre Haute IN, March 15 and 16, 2002.
5. Jessami Ofcarcik, *On the Klein bottle*, a paper presented at the 18<sup>th</sup> Annual Rose-Hulman Undergraduate Mathematics Conference, Rose-Hulman Institute of Technology, March 16 and 17, 2001.
6. Project NEXT (New Experiences in Teaching), Illinois Section of MAA, 1999-2001.
7. Sponsor of Math Club of Greenville College (a section of MAA) 2001-2003.
8. Coordinator of Greenville College – Hope Africa University, 2001-2003.
9. Eisenhower Professional Program, Summer 2002, *Turning Math Students into Problem Solvers*, Greenville College, June 24-28, 2002.

#### **SABBATICAL**

August – December 2010 at Institut Mathématique de Bordeaux, Université de Bordeaux I (France).  
August – December 2017: Travels to Benin, South Africa, France, UK, Hungary, China.

#### **RECENT CONFERENCES AND TALKS**

1. ISTEAH-CRM Seminar (by Zoom), February 26, 2023. Title: *Sur les équations diophantiennes.*

2. ICCGNFRT 2022, Kerala School of Mathematics, Kerala, INDIA, November 23, 2022. Title: ***On Diophantine pairs.***
3. Conference on Diophantine m-tuples and related problems III, September 14-16, 2022, Zagreb, Croatia. Title: ***On Diophantine pairs.***
4. Leuca2022, Celebrating Claude Levesque's, Damien Roy's and Michel Waldschmidt's birthdays May 16-21, 2022, Marina di San Gregorio, Patù (Lecce), Italy. Title: ***Some equations involving recurrent sequences and factorial.***
5. ICCGNFRT 2021, Kerala School of Mathematics, Kerala, INDIA, October 23, 2021. Title: ***Coincidence between k-Fibonacci numbers and products of two Fermat numbers.***
6. 2<sup>nd</sup> International Webinar on Recent Developments in Number Theory 2021, KIIT Deemed to be University Bhubaneswar, INDIA, October 1, 2021. Title: ***On some exponential Diophantine equations involving sequences.***
7. Fall 2021 Indiana Section Meeting, Saturday, September 25, 2021. Title: ***Current Trends in Diophantine Sets.***
8. *Department Seminar*, University of Ghana, Accra, July 23, 2021. Title: ***On some exponential Diophantine equations involving sequences.***
9. *Mathematical Congress of the Americas 2021: Special Session: Number Theory in the Americas*, Buenos Aires, July 14, 2021. Title: ***On some exponential Diophantine equations involving sequences.***
10. *CMS 75th+1 Anniversary Summer Meeting: Amicale de theorie des nombres en hommage a Robert Langlands*, Ottawa, Canada, June 9, 2021. Title: ***On Diophantine pairs.***
11. *Journées Arithmétiques*, Istanbul, Turkey, July 1, 2019. Title: ***On Pillai's problem with Pell numbers and powers of 2.***
12. *FWDERP 2019*, Bursa, Turkey, July 7, 2019. Title: ***On a family of biquadratic fields that do not admit a unit power integral basis.***
13. *Seminar MSCS, PNW*, Hammond, IN USA, November 30, 2018. Title: ***Can a repdigit be a sum of members of two different sequences of integers?***
14. *Integers Conference 2018*, Augusta, GA USA, October 3-6, 2018. Title: ***Perfect Powers that are sums of two powers of Fibonacci numbers.***
15. *CNTA Meeting XV*, Quebec City, Canada, July 3-14, 2018. Title: ***Repdigits as sums of members of other sequences.***
16. *Seminar on Number Theory*, Xiamen, China, June 30, 2018. Title: ***Repdigits as sums of members of other sequences.***
17. *Spring 2018 Tri-Section meeting of the Mathematical Association of America*, Friday & Saturday, March 23-24, 2018, Valparaiso University, Valparaiso IN.
18. *Public Talk at Aba Teacher's University*, Shuimo, China, October 19, 2017. Title: ***Diophantine m-tuples' challenges and a generalization of a Baker-Davenport theorem.***
19. *Journées Arithmétiques*, Caen, France, July 3, 2017. Title: ***Pell equations and sequences.***
20. *Séminaire Général IMSP*, Dangbo, Bénin, June 28, 2017. Title: ***Pell equations and sequences.***
21. *Super QVNTS: Kummer Classes and Anabelian Geometry*, Burlington VT, September 10-11, 2016.
22. *Colloque Journées CIMPA-Algeria 2016*, Tipaza, Algeria, May 29-30, 2016. Title: ***On the x-coordinates of Pell equations which are in some sequences.***
23. *CoE-MaSS seminar*, University of the Witwatersrand, South Africa, May 20, 2016. Title: ***On the x-coordinates of Pell equations which are in some sequences.***
24. *COC Math Colloquium*, College of Charleston, Charleston, SC USA, April 15, 2016. Title: ***Diophantine m-tuples and Challenges.***
25. *MCSS Colloquium*, Purdue University Calumet, Hammond, USA, March 31, 2016. Title: ***Diophantine m-tuples and Challenges.***
26. *Spring 2016 meeting of the Indiana Section of the Mathematical Association of America*, Friday & Saturday, March 18-19, 2016, Franklin College, Franklin IN.
27. *Computational Aspects of Diophantine Equations*, Paris Lodron University of Salzburg, Austria, February 16, 2016. Title: ***Diophantine triples of Fibonacci Numbers.***

28. *Seminar on Number Theory and Algebra*, University of Zagreb, Zagreb, Croatia, February 10, 2016. Title: **On Diophantine equations involving normalized binomial mid-coefficients.**
29. *Joint Mathematics Meetings*, Seattle WA, January 6–9, 2016.
30. *Fall 2015 meeting of the Indiana Section of the Mathematical Association of America*, Saturday, October 17, 2015, Purdue University North Central, Westville IN.
31. *Summer school "Pure and Applied Number Theory School"*, Daejeon, South Korea, July 9–12, 2015: Talk 1: **Diophantine equations 1: Diophantine  $m$ -tuples and challenges.** Talk 2: **Diophantine equations 2: On Diophantine equations involving normalized binomial mid-coefficients.** Talk 3: **Diophantine equations 3: On the number of solutions of a family of Diophantine inequalities.**
32. *Journées arithmétiques*, Debrecen, Hungary July 7, 2015. Title: **On  $P$ -integers.**
33. *Spring 2015 meeting of the Indiana Section of the Mathematical Association of America*, Friday & Saturday, March 13–14, 2016, Taylor University, Upland IN.
34. CSIRC Event Presentation 2014, Chesterton, IN, October 28, 2014. Title: **My academic journey and Diophantine equations.**
35. *Fall 2014 meeting of the Indiana Section of the Mathematical Association of America*, Saturday, October 18, 2014, Trine University, Angola IN.
36. Conference in Number Theory and Discrete Mathematics, Brock University, St Catharines, Canada, August 7–8, 2014. Title: **On Diophantine  $m$ -tuples.**
37. Journée Internationale d'Arithmétique - 2014. Université de Cocody, Abidjan, Côte d'Ivoire, July 24, 2014. Title: **On Diophantine  $m$ -tuples.**
38. Séminaire de la Théorie des nombres, Université de Lomé, Lomé, Togo, July 21, 2014. Title: **The  $P$ -integer Conjecture of Pomerance.**
39. *Quebec-Maine Number Theory Conference*, October 5–6, 2013, University of Maine, Orono. Title: **On Diophantine equations involving normalized binomial mid-coefficients.**
40. **Thue 150**, University of Bordeaux I, September 30 to October 4, 2013.
41. *Math Club meeting*, PNC September 23, 2013. Title: **On the number of solutions of a family of Diophantine inequalities.**
42. *Seminar Mathematics*, Brock University, Canada, June 12, 2013. Title: **On the number of solutions of a family of Diophantine inequalities.**
43. *Number Theory with a view towards Transcendence and Diophantine Approximation*, Ottawa, Canada June 8–10, 2013. Title: **On the number of solutions of a family of Diophantine inequalities.**
44. *Workshop on the computer algebra system PARI/GP*, January 14–18, 2013, Bordeaux 1 University, France.
45. *Fall 2012 meeting of the Indiana Section of the Mathematical Association of America*, Saturday, October 27, 2012, Indiana University East, Richmond, IN.
46. *Quebec-Maine Number Theory Conference*, September 29–30, 2012, University Laval in Quebec. Title: **On the Diophantine equation  $a^x + b^y = c^z$ .**
47. *Spring 2013 meeting of the Indiana Section of the Mathematical Association of America*, Friday & Saturday, March 27, 2013, Butler University, IN.
48. *Number Theory Seminar*, West Lafayette IN, February 17, 2012. Title: Diophantine equations with products of consecutive values of a quadratic polynomial.
49. *2012 Spring Western Section Meeting*, March 3–4, 2012, University of Hawaii at Manoa, Honolulu, HI. Title: **Diophantine equations with products of consecutive values of a quadratic polynomial.**
50. *Hawai'i Conference on "Algebraic Number Theory, Arithmetic Geometry and Modular Forms"* (HCANTAGME), University of Hawai'i, March 6–8, 2012. Title: **On the Diophantine equation  $x^4 - q^4 = py$ .**
51. December 5, 2011: Talk of Dr. Alain Togbe, Professor of Mathematics at PNC. Title: **A second experience in China.**
52. *Brock International Conference in Number Theory*, Brock University, Canada, on Friday September 9, 2011. Title: **On the size of the intersection of two Lucas sequences of distinct type.**

53. Zhaoqing University, Zhaoqing, China, on Friday November 18, 2011. Title: ***On the education in USA.***
54. Université Bordeaux I, Bordeaux, France, on Friday November 12, 2010. Title: ***On the Diophantine equation  $AX^2 - BY^{2n} = C$ .***
55. ETH Zurich, Zurich, Switzerland, on Thursday November 4, 2010. Title: ***On the Diophantine equation  $AX^2 - BY^{2n} = C$ .***
56. University of Debrecen, Debrecen, Hungary, on Tuesday October 4-8, 2010. Title: ***On Families of Diophantine triples.***
57. *Fall 2010 meeting of the Indiana Section of the Mathematical Association of America*, Saturday, October 16, 2010, Purdue University North Central, Westville IN.
58. PNC, Westville, March 2, 2010. Title: ***On two cases Diophantine equations.***
59. Zhaoqing University, Zhaoqing City, Guangdong Province, China, on Tuesday November 24, 2009. Title: ***Recent progress on the Diophantine equation  $AX^2 - BY^4 = C$ .***
60. The University of Hong Kong, Hong Kong on Monday November 23, 2009 Title: ***On families of Diophantine triples.***
61. South China Normal University, Guangzhou, Guangdong Province, China, on Thursday November 19, 2009. Title: ***Recent progress on the Diophantine equation  $AX^2 - BY^4 = C$ .***
62. *The 7<sup>th</sup> Pan African Congress of Mathematicians*, Yamoussoukro (Ivory Coast), August 3-8, 2009. Title: ***On Families of Diophantine triples.***
63. *Number Theory Seminar*, West Lafayette IN, April 9, 2009. Title: ***On Families of Diophantine triples.***
64. *2009 AMS Spring Central Sectional Meeting*, Urbana, IL, March 27-29, 2009. Title: ***Variants the Diophantine Equation  $x! + 1 = y^2$ .***
65. *Kappa Mu Epsilon Talk*, Department of Mathematics and Actuarial Sciences, October 23, 2008, Butler University. Title: ***On Families of Diophantine triples.***
66. *Le Congres Quebec-Maine*, October 4-5, 2008, Université Laval, Quebec, Canada. Title: ***On the number of solutions of the Diophantine equation  $ax^m - by^n = c$ .***
67. *CNTA Meeting X*, Waterloo, Canada, July 13-18, 2008. Title: ***Simultaneous Pell equations with a single or no solution.***
68. *ANTS VIII*, Banff, Canada, May 10-16, 2008. Title: ***On the Diophantine Equation  $x^2 + 2^a 5^b 13^c = y^n$ .***
69. *West Coast Number Theory Conference*, December 16-20, 2007, Asilomar Conference Grounds, Monterey, California. Title: ***On the positive integral solutions of the Diophantine equation  $x^3 + by + 1 - xyz = 0$ .***
70. *Thirty-fifth Annual Mathematics & Statistics Conference Number Theory*. September 28-29, 2007, Miami University, Oxford, Ohio. Title: ***On the Diophantine equation  $x^2 + 7^{2k} = y^n$ .***
71. *Illinois Number Theory Fest at UIUC*, May 17-19, 2007, Urbana-Champaign, IL. Title: ***A parametric family of sextic Thue equations.***
72. *West Coast Number Theory Conference*, December 17-21, 2006, UBC, Ensenada, Mexico. Title: ***On the Diophantine equation  $x^2 + C = y^n$ .***
73. *Canadian Number Theory Association IX Meeting*, July 9-16, 2006, UBC, Vancouver, Canada. Title: ***A generalization of a theorem of Bumby on quartic Diophantine equations.***
74. *The Spring 2006 Faculty Student Multidiscipline International Conference on Research and Teaching*, Mai 24 – 27, 2006, Ruston LA.
75. *Number Theory Seminar*, Purdue University, West Lafayette. April 12, 2006. Title: ***On the solutions of a family of quartic Thue equations II.***
76. *Spring 2006 AMS, Central Section meeting*, Notre Dame University, April 8-9, 2005. Title: ***On the Diophantine equation  $x! + 1 = y^2$ .***
77. *Spring 2006 MAA*, Indiana Section meeting, Taylor University, March 17-18, 2006.
78. *The XXIV<sup>èmes</sup> Journées Arithmétiques (JA 2005)* July 4-8, 2005, Marseille, France. Title: ***On the solutions of a family of Thue equations.***
79. *Spring 2005 MAA*, Indiana Section meeting, IP-Fort Wayne, April 1-2, 2005. Title: ***On solutions of families of Diophantine equations.***
80. *Canadian Mathematical Society Winter Meeting*, December 11-13, 2004, McGill University, Montreal, Canada.
81. *Canadian Number Theory Association VIII Meeting*, June 20-25, 2004, University of Toronto, Canada.

82. *Enterprise 2004 Hawaiian International Faculty Student Conference*, Mai 26 – 31, 2004, Waikiki Resort Hotel, Honolulu, Hawaii.
83. *Enterprise 2003 Hawaiian International Faculty Student Conference*, Mai 22 – 27, 2003, Waikiki Resort Hotel, Honolulu, Hawaii.
84. *Seminar in Number Theory*, Purdue University (West Lafayette, IN), January 22, 2003.
85. *Joint Meetings in Mathematics*, Baltimore, MD, January 15-18, 2003.

#### ***EDITORIAL DUTIES***

1. International Journal of Applied Mathematics & Statistics (IJAMAS)
3. Journal of Algebra, Number Theory and Applications (JANTA)
4. College Mathematics journal (CMJ - MAA)

#### ***REFeree DUTIES***

Acta Arithmetica, Journal of Number Theory, International Journal of Number Theory, Journal de la Theorie des nombres de Bordeaux, Publicationes Mathematicae Debrecen, Computers and Mathematics with Applications, INTEGERS, Science China Mathematics, Annales des sciences mathématiques du Québec, The Bulletin of the Australian Mathematical Society, The Glasgow Mathematical Journal, Mathematics of Computation, Monatshefte für Mathematik, ...

#### ***PROFESSIONAL MEMBERSHIP***

American Mathematical Society (AMS) 1996 - 2011.  
Association for Christians in the Mathematical Sciences (ACMS) since 1996.  
Mathematical Association of America (MAA) since 1998.  
Canadian Mathematical Society (CMS) since 2004-2011.