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UNIVERZITET CRNE GORE

-Senat-

-Centru za doktorske studije-

U prilogu akta dostavljamo Predlog Odluke Vijeća PMF-a sa XLII sjednice održane dana 11.02.2020. godine o imenovanju mentora studentu doktorskih studija MSc Antonu Đokaju.

DEKAN
Prof. dr Predrag Miranović

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Datum: 13.02.2020.g

Na osnovu člana 64 Statuta Univerziteta Crne Gore, a u vezi sa članom 29 stav 1 Pravila studiranja na doktorskim studijama Univerziteta Crne Gore, Vijeće Prirodno-matematičkog fakulteta na XLII sjednici održanoj dana 11.02.2020.godine, donijelo je sljedeću

ODLUKU

I

Predlažemo Senatu i Centru za doktorske studije Univerziteta Crne Gore prof. dr Davida Kaljaja za mentora studentu doktorskih studija - studijski program Matematika –Antonu Đokaju.

II

Dokumentacija o ispunjenosti uslova za imenovanje mentora i Potvrda o studiranju Antona Đokaja predstavlja sastavni dio odluke.

DEKAN
Prof. dr Predrag Miranović

PREDLOŽENI MENTOR/I			
	Titula, ime i prezime	Ustanova i država	Naučna oblast
Prvi mentor	prof. dr David Kalaj	Univerzitet Crne Gore - Crna Gora	Kompleksna analiza
Drugi mentor			
Sjednica Vijeća organizacione jedinice na kojoj je izvršeno predlaganje mentora		11. 02. 2020. g.	

KOMPETENCIJE MENTORA (pet objavljenih radova u relevantnim časopisima)		
Prvi mentor	1	Josip Globevnik, David Kalaj –„On holomorphic functions with cluster sets of finite linear measure", Math. Zeit. June 2018, Volume 289, Issue 1–2, pp 355–360
	2	D. Kalaj –„A sharp inequality for harmonic diffeomorphisms of the unit disk", Journal of Geom. anal., January 2019, Volume 29, Issue 1, pp 392–401
	3	D. Kalaj, A. Zlaticanin- „Quasiconformal mappings and Hölder continuity", Annales Academić Scientiarum Fennicć Mathematica Volumen 44, 2019, 797-803
	4	D. Kalaj- "(n, ϱ)- harmonic mappings and energy minimal deformations between annuli", Calc. Var. Partial Differ. Equ. 58, No. 2, Paper No. 51, 19 p. (2019).
	5	D. Kalaj- "On Riesz type inequalities for harmonic mappings on the unit disk", Trans. Am. Math. Soc. Journal Profile 372, No. 6, 4031-4051 (2019)
Drugi mentor	1	
	2	
	3	
	4	
	5	

PODACI O MAGISTRANDIMA I DOKTORANDIMA				
	Broj magistranada		Broj doktoranada	
	trenutno	ukupno	trenutno	ukupno
Prvi mentor	1	3	1	3
Drugi mentor				

Datum i ovjera (pečat i potpis odgovorne osobe)

U Podgorici,
10.02.2020 god.

UNIVERZITET CRNE GORE Prirodno-matematički fakultet UCG MP

DEKAN

MENTORSTVO

UNIVERZITET CRNE GORE

Prirodno-matematički fakultet

Vijeću Prirodno-matematičkog fakulteta

ZAHTJEV ZA IMENOVANJE MENTORA NA DOKTORSKIM STUDIJAMA

Uvaženi članice i članovi Vijeća,

Obraćam vam se ovim zahtjevom povodom imenovanja mentora na doktorskim studijama na Prirodno-matematičkom fakultetu Univerziteta Crne Gore, smjer Matematika.

Za mentora predlažem prof. dr Davida Kalaja, redovnog profesora Prirodno-matematičkog fakulteta Univerziteta Crne Gore.

S poštovanjem,

Student doktorskih studija

mr Anton Đokaj

U Podgorici,

10.02.2020 god.

Saglasnost mentora

prof. dr David Kalaj

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Природно-математички факултет
Бр. 2556
Подгорица, 01. 11. 2012 год.

Ref:
Date,

Na osnovu člana 75 stav 2 Zakona o visokom obrazovanju (Sl.list RCG, br. 60/03 i Sl.list CG, br. 45/10 i 47/11) i člana 18 stav 1 tačka 3 Statuta Univerziteta Crne Gore, Senat Univerziteta Crne Gore, na sjednici održanoj 25.10.2012. godine, donio je

O D L U K U
O IZBORU U ZVANJE

Dr DAVID KALAJ bira se u akademsko zvanje **redovni profesor** Univerziteta Crne Gore za predmete: Kompleksna analiza 2 (studijski program Matematika), Analiza 3 (studijski program Računarske nauke) i Analiza 3 (studijski program Fizika) **na Prirodno-matematičkom fakultetu.**

REKTOR

Prof. dr Predrag Miranović

DAVID KALAJ – CIRRICULUM VITAE
December 2019
UNIVERSITY OF MONTENEGRO, FACULTY OF SCIENCES AND MATHEMATICS
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EDUCATION

March 2002 University of Belgrade, Faculty of Mathematics
PhD in Mathematics. Thesis title: "Harmonic Mappings and Quasi-conformal Harmonic Mappings between Convex Domains".

1995 – 1998 University of Belgrade , Faculty of Mathematics
M.SC. Program. Thesis title: "Harmonic diffeomophisms and quasiconformal mappings"
GPA: 10.00/10.00

1991 - 1995 University of Montenegro, Faculty of Sciences and natural sciences, B.SC in Mathematics
GPA: 9.52/10.00

FELLOWSHIPS AND AWARDS

1993 Annual fellowship of the Ministry of Education of the Republic of Montenegro
1994 "Decembarska nagrada grada Podgorice" (the Award of the Municipality of Podgorica for distinctive results achieved as a student)
2012 The award for the best project funded by the Ministry of science of Montenegro
2017 The award of 13 July ("Trinaestojulska nagrada"), the most prestigious award for science and arts in Montenegro.
2019 The award of Ministry of science of Montenegro: The most successful scientist in Montenegro for 2019.

TEACHING EXPERIENCE

1995 – 1997 Teach. assistant, University of Montenegro, Faculty of Sciences
Mathematical Analysis 2, undergraduate course
Differential Calculus, undergraduate course

1998 – 2002 Teach. assistant, University of Montenegro, Faculty of Sciences
Mathematical Analysis 2, undergraduate course
Complex Analysis, undergraduate course

2002 – 2007 Assist. professor, University of Montegro, Faculty of Sciences
Complex Analysis, undergraduate course
Mathematical Analysis 3, undergraduate course

2007 – 2012 Associate professor, University of Montenegro
Complex Analysis, Mathematics 1, Mathematics 2, Mathematics 3, Mathematics 4, (Study programme for education of teachers in Albanian Language) undergraduate course
Mathematical Analysis 3, undergraduate course

Real and Complex Analysis, graduate course

2012 – Full professor, University of Montenegro

PhD Students

2013, Marijan Markovic (University in Beograd)
2014, Djordjije Vujadinovic (University in Beograd)
2018, ElverBajrami (University of Sarajevo)

MS students

2010, DjordjijeVujadinovic
2019, Anton Djokaj

ADITIONALINFORMATIONS

Born	December 11, 1971; Podgorica, Yugoslavia
Citizenship	Montenegrin
Languages	Albanian (native command), Serbian (native command), English (fluent) , Russian (passive), Italian (passive).

Computer skills Latex, C++, Mathematica softwere

Projects

a) PI of the National Project Analysis on Manifolds (2008-2011).
b) PI of the National Project Analysis on Manifolds and Application (2012-2015).
d) The leader of the of bilateral projects:
1) With the University of Vienna (2017-2018)
2) With the Huaqiao University in Quanzhou and Xiamen in China (2015-2016)
3) With the University of Ljubljana (2016-2017)
4) With the University of Zagreb (2015-2016)
5) With the University of Vienna (2019-2020)
6) With the University of Hengyang, China (2019-2020)

Scientific papers

1. D. Kalaj, *Univalent harmonic mappings between Jordan domains,Publ. Inst. Math., Nouv.* Ser. 69(83), 108-112 (2001).
2. D. Kalaj, *On the Nitcshe's conjecture for harmonic mappings* Mathematica Montisnigri Vol XIV (2001) 89-94.
3. D. Kalaj, *The Jacobian of harmonic function and of its boundary values,*Revue Roumanine De MathematiquesPures Et Appliquees Tome XLVII, N 5-6 (2002).
4. D. Kalaj, *On harmonic diffeomorphisms of the unit disc onto a convex domain*, Complex Var. Theory Appl.48 . No.2, 175-187 (2003).
5. D. Kalaj, *Quasiconformal harmonic functions between convex domains*, Publ. Inst. Math., Nouv. Ser. 76(90), 3-20 (2004).
6. D. Kalaj, *On the Nitsche's conjecture for harmonic mappings in R^2 and in R^3*. Publ. Inst. Math. (Beograd) (N.S.)75(89) (2004), 139--146.
7. D. Kalaj, M. Pavlovic, *Boundary correspondence under harmonic quasiconformalhomeomorfisms of a half-plane*Ann. Acad. Sci. Fenn. Math.30 (2005), no. 1, 159--165.
8. D. Kalaj, *On the Nitsche conjecture for harmonic mappings in R^2 and in R^3*,Israel J. Math.150 (2005) 241-251.
9. D. Kalaj, M Mateljevic: *Inner estimate and quasiconformal harmonic maps between smooth domains*, J. Anal. Math. 100 (2006), 117-132.

10. Sh. Najafzadeh, S. R. Kulkarni and D. Kalaj *Application of convolution and Dziok-Srivastava linear operators on analytic and p-valent functions,* Filomat 20:2 (2006), 115–124.
11. D. Kalaj *On the univalent solution of PDE between spherical annuli*, J. Math. Anal. Appl. Volume 327, Issue 1, Pages 1-11 (2007).
12. D. Kalaj, *Quasiconformal and harmonic mappings between Jordan domains,* Math. Z. Volume 260, Number 2, 237-252, 2008.
13. D. Kalaj, M Mateljevic, *Quasiconformal and harmonic mappings between smooth Jordan domains*, Novi Sad J. of Mathematics, 38 (2) 2008, 147-156.
14. D. Kalaj, *On harmonic quasiconformal self-mappings of the unit ball*, Ann. Acad. Sci. Fenn. Math. Vol 33, 261-271, (2008).
15. D. Kalaj, *Lipschitz spaces and harmonic mappings*, Ann. Acad. Sci. Fenn. Math. Vol 34, 2009, 475–485.
16. D. Kalaj, *On quasiregular mappings between smooth domains,* J. Math. Anal. Appl. 2010, 362, issue 1, Pages 58-63.
17. D. Kalaj, M Mateljevic, *Harmonic q.c. self-mapping and M\"obius transformations of the unit ball*, Pacific J. Math. Vol. 247, No. 2, 2010, 389–406.
18. D. Kalaj, *On an integral inequality and application to Poission equation,* Applied Mathematics Letters, 23 (2010) 1016--1020 .
19. D. Kalaj *Quasiconformal harmonic mappings and close to convex domains,* Filomat, Volume 24, Number 1, April 2010, 63—68.
20. D. Kalaj, M Mateljevic, *On absolutely conformal mappings*, Publ. Math. Debrecen. 77/1-2 (2010), 33-38.
21. R. Meštrović, D. Kalaj, *A converse of Minkowski's type inequalities*, Journal of inequalities and applications, Volume 2010 (2010), Article ID 461215, 9 pages doi:10.1155/2010/461215.
22. D. Kalaj, M. Mateljevic, *Quasiconformal harmonic mappings and generalizations*, J. Analysis, Volume 18 (2010), 239–260.
23. D. Kalaj, M. Pavlovic, *On quasiconformal self-mappings of the unit disk satisfying Poisson differential equation*, Trans. Amer. Math. Soc. 363 (2011) 4043–4061.
24. D. Kalaj, *Harmonic maps between annuli on Riemann surfaces*, Israel J. Math. 182 (2011), 123--147.
25. D. Kalaj, M Mateljevic, *On quasiconformal harmonic surfaces with rectifiable boundary*, Complex Complex Anal. Oper. Theory 5, No. 3, 633-646 (2011).
26. D. Kalaj, M Mateljevic, *On certain nonlinear elliptic PDE and quasiconfomalmapps between Euclidean surfaces*, Potential analysis, Volume 34, Number 1, 13-22, DOI: 10.1007/s11118-010-9177-x (10 pages).
27. D. Kalaj, *Harmonic mappings and distance function* Ann. Scuola Norm. Sup. Pisa Cl. Sci. (5), Vol. X (2011), 669-681.
28. D. Kalaj, *Isoperimetric inequality for the polydisk,* Annali di matematica pura ed applicata, Volume 190 (2011), Number 2, 355-369.
29. D. Kalaj, *Estimates of gradient and of Jacobian of harmonic mappings defined in the unit disk*, Proc. Am. Math. Soc. 139, No. 7, 2463-2472 (2011).
30. D. Kalaj, *Invertible harmonic mappings beyond Kneser theorem and quasiconformal harmonic mappings*, Stud. Math. 207, No. 2, 117-136 (2011), arXiv:1003.2740.
31. D. Kalaj, R. Meštrović, *An isoperimetric type inequality for harmonic functions*, Journal of Mathematical Analysis and Applications, Volume 373, Issue 2, 15 January 2011, Pages 439-448.
32. D. Kalaj, *On the quasiconformal self-mappings of the unit ball satisfying the Poisson differential equations,* Ann. Acad. Sci. Fenn. Math.Volumen 36, 2011, 177-194.
33. D. Kalaj, M Mateljevic, *(K,K')-quasiconformal harmonic mappings,* Potential Anal. 36, No. 1, 117-135 (2012).

34. *D. Kalaj, M. Vuorinen: On harmonic functions and the Schwarz lemma,* Proc. Amer. Math. Soc. 140 (2012), 161-165 .
35. Barkat A. Bhayo, Vladimir Božin, David Kalaj, MattiVuorinen: *Norm inequalities for vector functions,* Journal of Mathematical Analysis and ApplicationsVolume 380, Issue 2, 15 August 2011, Pages 768-781.
36. *D. Kalaj, M. Mateljevic: On conformal, harmonic mappings and Dirichlet'sintegral,Filomat*Volume 25, Number 2, June 2011 , 91-108.
37. D. Kalaj, *On boundary correspondence of q.c. harmonic mappings between smooth Jordan domains*, Math. Nachr. 285, No. 2-3, 283-294 (2012).
38. *D. Kalaj, M. Markovic: Optimal estimates for the harmonic functions in the unit ball, Positivity 16, No. 4, 771-782 (2012).*
39. *D. Kalaj, Quasiconformal harmonic mappings between $C^{1,\alpha}$ Euclideansurfaces, Monatsh. Math. 167, No. 2, 205-229 (2012).*
40. *D. Kalaj, V. Manojlovic: Subharmonicity of the modulus of quasiregular harmonic mappings, Journal of mathematical analysis and applications Volume 379, Issue 2, 15 July 2011, Pages 783-787.*
41. D. Kalaj, *On Kellogg's theorem for quasiconformal mappings, Glasg. Math. J. 54, No. 3, 599-603 (2012).*
42. D. Kalaj, *On some integrable operators related to Poisson equation,* Integral Equations Oper. Theory 72, No. 4, 563-575 (2012).
43. D. Kalaj, *Stolz angle limit of a certain class of selfmappings of the unit disk,* J. Approx. Theory 164, No. 6, 815-822 (2012).
44. D. Kalaj, *Cauchy transform and Poisson's equation,* Advances in Mathematics 231, No. 1, 213-242 (2012).
45. *D. Kalaj, On quasiconformal selfmappings of the unit disk and elliptic PDE in the plane, Proceedings of the Royal Society of Edinburgh: Section A, Volume 143 / Issue 04 / August 2013 pp 831-849.*
46. *D. Kalaj, M. Markovic: Optimal estimates for the gradient of harmonic functions in the unit disk, Complex Anal. Oper. Theory 7, No. 4, 1167-1183 (2013).*
47. D. Kalaj, *A priori estimate of gradient of a solution to certain differential inequality and quasiregular mappings,* J. Anal. Math. 119, 63-88 (2013).
48. D. Kalaj, S. Ponnusamy, M. Vuorinen, *Radius of Close-to-convexity of Harmonic Functions,* Complex Var. Elliptic Equ. 59, No. 4, 539-552 (2014).
49. Kalaj, M. Markovic, M. Mateljevic: *Carathéodory and Smirnov type theorems for harmonic mappings of the unit disk onto surfaces.,* Ann. Acad. Sci. Fenn., Math. *38, No. 2, 565-580 (2013).*
50. D. Kalaj, *Gauss map of a harmonic surface,* IndagationesMathematicae Volume 24, Issue 2, March 2013, Pages 415–427 .
51. D. Kalaj, Dj. Vujadinovic: *Bergman projection and Besov space* , Mathematical reports, *the 4th issue of 2013.*
52. *David Kalaj, MarijanMarkovic, Norm of the Bergman projection, Mathematical Reports, vol. 15, no. 4, pp. 527–528, 2013.*
53. D. Kalaj, N. Elkies: *On real part theorem for the derivatives of analytic functions in the unit disk,* Comput. Methods Funct. Theory 13, No. 2, 189-203 (2013).
54. *D. Kalaj, M. Markovic: Norm of Bergman projection* Math. Scand. 115, No. 1, 143-160 (2014).
55. *D. Kalaj, Energy-minimal diffeomorphisms between doubly connected Riemann surfaces,* Calculus Variation Partial Differ. Equ. 51, No. 1-2, 465-494 (2014).
56. D. Kalaj, S. Ponnusamy,*Polyharmonicmappings and J. C. C. Nitsche type conjecture,* Glas. Mat., III. Ser. 49, No. 1, 163-178 (2014).
57. D. Kalaj: *Radial extension of a bi-Lipschitz parametrization of a starlike Jordan curve,* Complex Var. Elliptic Equ. 59, No. 6, 809-825 (2014).

58. *D. Kalaj: On harmonic functions on surface with positive Gauss Curvature and the Schwarz lemma* , Rocky Mt. J. Math. 44, No. 5, 1585-1593 (2014).
59. D. Kalaj, Ken-IchiSakan,*Quasiconformal harmonic mappings onto a convex domain revisited* , *Albanian Journal of Mathematics*, Vol 7, No 2 (2013): September 2013.
60. D. Kalaj, *On quasiconformal harmonic maps between surfaces*, International Math. Research Noticies 2015, No. 2, 355-380 (2015).
61. Ljubomir B. Ćirić, Samuel Krushkal, Qamrul Hasan Ansari, David Kalaj, and VesnaManojlović, Nonlinear Analysis and Geometric Function Theory , Abstract and Applied Analysis, Volume 2014 (2014), Article ID 656957, 1 page
62. David Kalaj: On J. C. C. Nitsche's type inequality for hyperbolic space $\mathbf{H}^3$, Potential Anal. 41, No. 3, 931-943 (2014). arXiv:1202.4410.
63. David Kalaj, DjordjijeVujadinovic: Norm of the Bergman projection onto the Bloch space, J. Operator Theory, 73:1(2015), 113–126 doi: 10.7900/jot.2013sep24.2006
64. David Kalaj, DjordjijeVujadinovic: The solution operator of inhomogeneous Dirichlet problem in the unit ball, in Proc. Am. Math. Soc. 144, No. 2, 623-635 (2016).
65. David Kalaj: Quasiconformal harmonic mappings between Dini's smooth Jordan domains, Pac. J. Math. 276, No. 1, 213-228 (2015).
66. David Kalaj: Lindeloef theorem for harmonic mappings in J. Math. Soc. Japan 68, No. 2, 653-667 (2016).
67. David Kalaj: On Lipschitz mappings of the unit circle onto a convex curve and their extensions, Filomat 29:2 (2015), 263–274.
68. David Kalaj: Muckenhoupt weights and a Lindel\"of theorem for harmonic mappings, Adv. Math. 280, 301-321 (2015).
69. David Kalaj: Heinz-Schwarz inequalities for harmonic mappings in the unit ball, Ann. Acad. Sci. Fenn., Math. 41, No. 1, 457-464 (2016)., arXiv:1504.01686 .
70. D. Kalaj, Deformations of Annuli on Riemann surfaces and the generalization of Nitsche conjecture, J. Lond. Math. Soc., II. Ser. 93, No. 3, 683-702 (2016), doi:10.1112/jlms/jdw014.
71. David Kalaj, MattiVuorinen, Gendi Wang: On Quasi-inversions, Monatsh. Math. 180, No. 4, 785-813 (2016)., arXiv: 1212.0721
72. Chen, Xingdi; Kalaj, David A representation theorem for standard weighted harmonic mappings with an integer exponent and its applications. J. Math. Anal. Appl. 444 (2016), no. 2, 1233–1241.
73. David Kalaj, Jian-Feng Zhu, Quasiconformal Harmonic mappings and the curvature of the boundary. J. Math. Anal. Appl. 446 (2017), no. 2, 1154–1166.
74. Kalaj, David Invertible harmonic mappings of the unit disk onto Dini smooth Jordan domains. Bulletin des Sciences Mathématiques 141, No. 1, 1-9 (2017). http://dx.doi.org/10.1016/j.bulsci.2016.11.001.
75. Kalaj, David: Rad\'o—Kneser—Choquet theorem for harmonic mappings between surfaces. Calc. Var. Partial Differ. Equ. 56, No. 1, Paper No. 4, 12 p. (2017).
76. D. Kalaj, Schwarz lemma for holomorphic mappings in the unit ball, To appear in Glasgow journal of mathematics, Volume 60, Issue 1, January 2018 , pp. 219-224. arXiv:1504.04823
77. D. Kalaj, A proof of Khavinson's conjecture in , arXiv:1601.03347, Bull. London Math. Soc. Volume 49, Issue 4 August 2017 Pages 561–570
78. David Kalaj, DjordjijeVujadinovic, Gradient of solution of the Poisson equation in the unit ball and related operators, Canad. Math. Bull. 60(2017), 536-545
79. D. Kalaj, E. Bajrami, On some Riesz and Carleman type inequalities for harmonic functions on the unit disk, Comput. Methods Funct. Theory (2017). https://doi.org/10.1007/s40315-017-0226-y, arXiv:1701.03429.
80. Sh. Chen, D. Kalaj: Lipschitz continuity of holomorphic mappings with respect to Bergman metric, Ann. Acad. Sci. Fenn., Math. 43, No. 1, 239-246 (2018).

81. Josip Globevnik, David Kalaj, On holomorphic functions with cluster sets of finite linear measure, Math. Z. 289, No. 1-2, 355-360 (2018). https://doi.org/10.1007/s00209-017-1954-4 arXiv:1610.06964.
82. D. Kalaj, Schwarz lemma for harmonic mappings in the unit ball, to appear in Complex analysis and operator theory, February 2018, Volume 12, Issue 2, pp 545–554 arXiv:1506.06410.
83. Sh. Chen, D. Kalaj, Total energy of radial mappings, Nonlinar analysis, Volume 167, January 2018, Pages 21-28 arXiv:1703.10064.
84. David Kalaj: On J. C. C. Nitsche type inequality for annuli on Riemann surfaces, Isr. J. Math. 218, 67-81 (2017), arXiv:1204.5419.
85. D. Kalaj, E. Saksman,:Quasiconformal mappings with controlled Laplacean, arXiv:1410.8439, to J. Anal. Math. 137, No. 1, 251-268 (2019).
86. D. Kalaj, A sharp inequality for harmonic diffeomorphisms of the unit disk, arXiv:1706.01990, J. Geom. Anal. 29, No. 1, 392-401 (2019).
87. David Kalaj & Jian-Feng Zhu (2018): Schwarz Pick type inequalities for harmonic maps between Riemann surfaces, Complex Variables and Elliptic Equations, DOI: 10.1080/17476933.2018.1530664.
88. D. Kalaj, J-F. Zhu Neohookean deformations of annuli in the higher dimensional Euclidean space, Nonlinear Analysis Volume 189, December 2019, 111575 arXiv:1903.02291
89. D. Kalaj, On Heinz type inequality for the half-plane and Gaussian curvature of Minimal surfaces, to appear in Proceeding of AMS
90. D. Kalaj, Lipschitz property of minimisers between double connected surfaces, To appear in Journal of Geometric Analysis arXiv:1902.04167
91. D. Kalaj, Harmonic maps between two concentric annuli in R3, To appear in Advances in calculus of variations, arXiv:1809.09893
92. Sh. Chen, D. Kalaj, The Schwarz type Lemmas and the Landau type theorem of mappings satisfying Poisson's equations, Complex Analysis and Operator Theory June 2019, Volume 13, Issue 4, pp 2049–2068. arXiv:1708.03924.
93. **D. Kalaj, Hyperelastic deformations and total combined energy of mappings between annuli, Journal of Differential Equations, Available online 21 November 2019.**

Papers in the conferences

1. D. Kalaj, *On the first and on the radial derivative of harmonic function defined on the unit ball,* Proceedings of the Workshop devoted to 25 anniversary of the Faculty of Natural Sciences and mathematics, University of Montenegro, September 2005, p: 88-97.
94. D. Kalaj, *On harmonic diffeomorphisms and Q.C. harmonic functions,*Procedings of the 10th congress of Yugoslav mathematicians, Belgrade, 21-24.01. 2001, 231-234.
95. D. Kalaj, Arsen Zlaticanin, Hölder Continuity of Quasiconformal Mappings, Proceedings of the VIII International Conference on Optimization and Applications (OPTIMA-2017), 268-272.

Conferences and seminars

1. D. Kalaj, Harmonic mappings between convex domains X Congress of Yugoslav Mathematicians, Beograd, Yugoslavia, January 2001
96. . D. Kalaj: On Quasiconformal harmonic function of the unit disk onto a convex domain, Rom-Finn.Seminar, 2001, Brasov, Rumunija
97. D Kalaj: 5 International symposium of mathematical analysis and its applictaions, MAA5, Niška Banja, October 2-6 , 2002

98. D Kalaj: On the Nitsche's conjecture for harmonic mappings in R2 and in R3. 986 TH AMS Meeting, Courant Institute New York, April 12-13, 2003 page 48-48
99. D Kalaj: M Pavlovic: Boundary correspondence under harmonic quasiconformal mapping of the halfplane, The book of abstract of X1 Congress of Yugoslav Mathematicians, page 32, Petrovac,Octobar 2004.
100. D. Kalaj: On the first and on the radial derivative of harmonic function defined on the unit ball, Proceedings of the Workshop devoted to 25 anniversary of the Faculty of Natural Sciences and mathematics, University of Montenegro, Septembar 2005.
101. D Kalaj: On the univalent solution of PDE between spherical annuli, The book of abstracts of Harmonic Analysis and partial Differential Equations, June 27-July 1, 2005, Keil, Germany.
102. D Kalaj: Harmonic and quasiconformal maps, Extremal Problems in Complex and Real Analysis, Peoples Friendship University of Russia Moscow, Russia May 22-26, 2007. The book of abstracts.
103. D Kalaj: Quasiconformal harmonic maps, Seminar: Mathematical Colloquim, Beograd 11. 05. 2007. http://www.mi.sanu.ac.yu/colloquiums/mathcoll_prog rams/mathcoll.may2007.htm, Invited lecture
104. D. Kalaj: On the univalent solution of PDE between spherical annuli: Seminar: Differential Equations in Theory and Applications 06.06. 2007 www.math.ntnu.no/seminarer/difta , Invited lecture
105. D. Kalaj: On quasiconformal harmonic mappings, Congress in memory of Adrien Douady, Paris, France Maj, 2008, Poster.
106. D. Kalaj: Boundary correspondence under q.c. harmonic mappings between Jordan domains, Mini conference on quasiconformal harmonic mappings, Beograd, Srbija, 2009, septembar, Invited lecture .
107. D. Kalaj: On quasiconformal mappings and elliptic PDE in the plane, Helsinki seminar on Analysis, October, 2010, invited lecture .
108. D. Kalaj: On quasiconformal mappings and elliptic PDE in the plane, Turku seminar on Analysis, October, 2010, invited lecture.
109. D. Kalaj: Deformation of annuli under smallest mean distortion on Riemann surfaces Workshop on Quasiconformal mappings and Mappings of finite distortion, Prague, September 2011, Invited speaker.
110. D. Kalaj: Deformation of annuli under smallest mean distortion on Riemann surfaces and generalization of J. C. C. Nitsche Conjecture Workshop on Complex Analysis, Belgrade, February 2012. Invited lecture .
111. D. Kalaj: Deformations of Annuli on Riemann surfaces and the generalization of Nitsche conjecture and Quasiconformal harmonic mappings, Invited lecture , International Conference on Complex Analysis and Related Topics, Romania, Ploiesti 2012. http://imar.ro/RoFinSem2012/conf.php, Romanian finish seminar.
112. D. Kalaj: Deformations of Annuli on Riemann surfaces and the generalization of Nitsche conjecture, The 6th European Congress of Mathematics, 2012. Poster.
113. David Kalaj: Cauchy transform and Poisson equation, Turku analysis seminar, Finska (4.10. 2012) http://users.utu.fi/ripekl/seminar/index.html
114. David Kalaj, Energy-minimal diffeomorphisms between doubly connected Riemann surfaces, "Conference on Riemann surfaces and Kleinian groups", held in Osaka University, Japan, from January 12 to January 14. 2013.
115. David Kalaj, Quasiconformal harmonic mappings between surfaces, Conference of Geometric function theory, October 2013, Beograd.
116. David Kalaj, Muckenhoupt weights and Lindelöf theorem for harmonic mappings, March 2014, Helsinki seminar of analysis, Helsinki 2014.

117. David Kalaj, Quasiconformal harmonic mappings between surfaces, March 2014, Helsinki seminar of analysis, Helsinki 2014.
118. David Kalaj, Muckenhoupt weights and Lindelöf theorem for harmonic mappings, ICM August, 2014, Seoul, Korea, Short communication.
119. David Kalaj, Harmonic and quasiconformal mappings and generalizations, School of Mathematical Science Huaqiao University, P.R.China, January 26, 2015.
120. David Kalaj , On quasi-inversionsSchool of Mathematical Science Huaqiao University, P.R.China, January 27, 2015.
121. David Kalaj, Energy-minimal diffeomorphisms between doubly connected Riemann surfaces, School of Mathematical Science Huaqiao University, P.R.China, January 27, 2015.
122. David Kalaj, Poisson equation and Cauchy transform, School of Mathematical Science Huaqiao University, P.R.China,January 28, 2015.
123. David Kalaj, Quasiconformal harmonic mappings between surfacesSchool of Mathematical Science Huaqiao University, P.R.China, January 28, 2015.
124. David Kalaj "Norm of the Bergman projection",School of Mathematical Science Huaqiao University, P.R.China, January 25, 2015.
125. David Kalaj:"Schwarz lemma for harmonic functions, School of Mathematical Science Huaqiao University, P.R.China, January 27, 2015.
126. David Kalaj, "The J. C. C. Nitsche conjecture and generalization" School of Mathematical Science Huaqiao University, P.R.China, January 25, 2015.
127. **D. Kalaj, On Kellogg theorem for Minimal surfaces, Sastanak Matematičara Srbije I Crne Gore - SMSCG 2019, https://www.mathforum.me/suretmatsrbcg/program-smscg-2019/**
128. **D. Kalaj, Lindelof theorem and Muchenhoupt weights, Simposium of mathematics and applications, Faculty of mathematics, Belgrade December 2019.**

129.2. **D. Kalaj, On Heinz type inequality for the half-plane and Gaussian curvature of Minimal surfaces, Conference on Geometric Function Theory, GTIIT and Shantou University, China, April, 2019.**

The books

1. D. Kalaj: Zbirka zadataka iz kompleksne analize, Univerzitet Crne Gore, 2006, 219 str. (Collected problems in complex analysis with the solutions)
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Date,

Na osnovu člana 75 stav 2 Zakona o visokom obrazovanju (Sl.list RCG, br. 60/03 i Sl.list CG, br. 45/10 i 47/11) i člana 18 stav 1 tačka 3 Statuta Univerziteta Crne Gore, Senat Univerziteta Crne Gore, na sjednici održanoj 25.10.2012. godine, donio je

O D L U K U
O IZBORU U ZVANJE

Dr DAVID KALAJ bira se u akademsko zvanje **redovni profesor** Univerziteta Crne Gore za predmete: Kompleksna analiza 2 (studijski program Matematika), Analiza 3 (studijski program Računarske nauke) i Analiza 3 (studijski program Fizika) **na Prirodno-matematičkom fakultetu.**

REKTOR

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EDUCATION

March 2002 University of Belgrade, Faculty of Mathematics
PhD in Mathematics. Thesis title: "Harmonic Mappings and Quasi-conformal Harmonic Mappings between Convex Domains".

1995 – 1998 University of Belgrade , Faculty of Mathematics
M.SC. Program. Thesis title: "Harmonic diffeomophisms and quasiconformal mappings"
GPA: 10.00/10.00

1991 - 1995 University of Montenegro, Faculty of Sciences and natural sciences, B.SC in Mathematics
GPA: 9.52/10.00

FELLOWSHIPS AND AWARDS

1993 Annual fellowship of the Ministry of Education of the Republic of Montenegro
1994 "Decembarska nagrada grada Podgorice" (the Award of the Municipality of Podgorica for distinctive results achieved as a student)
2012 The award for the best project funded by the Ministry of science of Montenegro
2017 The award of 13 July ("Trinaestojulska nagrada"), the most prestigious award for science and arts in Montenegro.
2019 The award of Ministry of science of Montenegro: The most successful scientist in Montenegro for 2019.

TEACHING EXPERIENCE

1995 – 1997 Teach. assistant, University of Montenegro, Faculty of Sciences
Mathematical Analysis 2, undergraduate course
Differential Calculus, undergraduate course
1998 – 2002 Teach. assistant, University of Montenegro, Faculty of Sciences
Mathematical Analysis 2, undergraduate course
Complex Analysis, undergraduate course
2002 – 2007 Assist. professor, University of Montegro, Faculty of Sciences
Complex Analysis, undergraduate course
Mathematical Analysis 3, undergraduate course
2007 – 2012 Associate professor, University of Montenegro
Complex Analysis, Mathematics 1, Mathematics 2, Mathematics 3, Mathematics 4, (Study programme for education of teachers in Albanian Language) undergraduate course
Mathematical Analysis 3, undergraduate course

Real and Complex Analysis, graduate course

2012 – Full professor, University of Montenegro

PhD Students

2013, Marijan Markovic (University in Beograd)
2014, Djordjije Vujadinovic (University in Beograd)
2018, ElverBajrami (University of Sarajevo)

MS students

2010, DjordjijeVujadinovic
2019, Anton Djokaj

ADITIONALINFORMATIONS

Born	December 11, 1971; Podgorica, Yugoslavia
Citizenship	Montenegrin
Languages	Albanian (native command), Serbian (native command), English (fluent) , Russian (passive), Italian (passive).

Computer skills Latex, C++, Mathematica softwere

Projects

a) PI of the National Project Analysis on Manifolds (2008-2011).
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1) With the University of Vienna (2017-2018)
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4) With the University of Zagreb (2015-2016)
5) With the University of Vienna (2019-2020)
6) With the University of Hengyang, China (2019-2020)

Scientific papers

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8. D. Kalaj, *On the Nitsche conjecture for harmonic mappings in R^2 and in R^3,*Israel J. Math.150 (2005) 241-251.
9. D. Kalaj, M Mateljevic: *Inner estimate and quasiconformal harmonic maps between smooth domains*, J. Anal. Math. 100 (2006), 117-132.

10. Sh. Najafzadeh, S. R. Kulkarni and D. Kalaj *Application of convolution and Dziok-Srivastava linear operators on analytic and p-valent functions*,Filomat 20:2 (2006), 115–124.
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12. D. Kalaj, *Quasiconformal and harmonic mappings between Jordan domains*,Math. Z. Volume 260, Number 2, 237-252, 2008.
13. D. Kalaj, M Mateljevic, *Quasiconformal and harmonic mappings between smooth Jordan domains*, Novi Sad J. of Mathematics, 38 (2) 2008, 147-156.
14. D. Kalaj, *On harmonic quasiconformal self-mappings of the unit ball*, Ann. Acad. Sci. Fenn. Math. Vol 33, 261-271, (2008).
15. D. Kalaj, *Lipschitz spaces and harmonic mappings*, Ann. Acad. Sci. Fenn. Math. Vol 34, 2009, 475–485.
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18. D. Kalaj, *On an integral inequality and application to Poission equation*,Applied Mathematics Letters, 23 (2010) 1016--1020 .
19. D. Kalaj *Quasiconformal harmonic mappings and close to convex domains*,Filomat, Volume 24, Number 1, April 2010, 63—68.
20. D. Kalaj, M Mateljevic, *On absolutely conformal mappings*, Publ. Math. Debrecen. 77/1-2 (2010), 33-38.
21. R. Meštrović, D. Kalaj, *A converse of Minkowski's type inequalities*, Journal of inequalities and applications, Volume 2010 (2010), Article ID 461215, 9 pages doi:10.1155/2010/461215.
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81. Josip Globevnik, David Kalaj, On holomorphic functions with cluster sets of finite linear measure, Math. Z. 289, No. 1-2, 355-360 (2018). https://doi.org/10.1007/s00209-017-1954-4 arXiv:1610.06964.
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83. Sh. Chen, D. Kalaj, Total energy of radial mappings, Nonlinar analysis, Volume 167, January 2018, Pages 21-28 arXiv:1703.10064.
84. David Kalaj: On J. C. C. Nitsche type inequality for annuli on Riemann surfaces, Isr. J. Math. 218, 67-81 (2017), arXiv:1204.5419.
85. D. Kalaj, E. Saksman,:Quasiconformal mappings with controlled Laplacean, arXiv:1410.8439, to J. Anal. Math. 137, No. 1, 251-268 (2019).
86. D. Kalaj, A sharp inequality for harmonic diffeomorphisms of the unit disk, arXiv:1706.01990, J. Geom. Anal. 29, No. 1, 392-401 (2019).
87. David Kalaj & Jian-Feng Zhu (2018): Schwarz Pick type inequalities for harmonic maps between Riemann surfaces, Complex Variables and Elliptic Equations, DOI: 10.1080/17476933.2018.1530664.
88. D. Kalaj, J-F. Zhu Neohookean deformations of annuli in the higher dimensional Euclidean space, Nonlinear Analysis Volume 189, December 2019, 111575 arXiv:1903.02291
89. D. Kalaj, On Heinz type inequality for the half-plane and Gaussian curvature of Minimal surfaces, to appear in Proceeding of AMS
90. D. Kalaj, Lipschitz property of minimisers between double connected surfaces, To appear in Journal of Geometric Analysis arXiv:1902.04167
91. D. Kalaj, Harmonic maps between two concentric annuli in R3, To appear in Advances in calculus of variations, arXiv:1809.09893
92. Sh. Chen, D. Kalaj, The Schwarz type Lemmas and the Landau type theorem of mappings satisfying Poisson's equations, Complex Analysis and Operator Theory June 2019, Volume 13, Issue 4, pp 2049–2068. arXiv:1708.03924.
93. **D. Kalaj, Hyperelastic deformations and total combined energy of mappings between annuli, Journal of Differential Equations, Available online 21 November 2019.**

Papers in the conferences

1. D. Kalaj, *On the first and on the radial derivative of harmonic function defined on the unit ball,* Proceedings of the Workshop devoted to 25 anniversary of the Faculty of Natural Sciences and mathematics, University of Montenegro, September 2005, p: 88-97.
94. D. Kalaj, *On harmonic diffeomorphisms and Q.C. harmonic functions,* Procedings of the 10th congress of Yugoslav mathematicians, Belgrade, 21-24.01. 2001, 231-234.
95. D. Kalaj, Arsen Zlaticanin, Hölder Continuity of Quasiconformal Mappings, Proceedings of the VIII International Conference on Optimization and Applications (OPTIMA-2017), 268-272.

Conferences and seminars

1. D. Kalaj, Harmonic mappings between convex domains X Congress of Yugoslav Mathematicians, Beograd, Yugoslavia, January 2001
96. , D. Kalaj: On Quasiconformal harmonic function of the unit disk onto a convex domain, Rom-Finn.Seminar, 2001, Brasov, Rumunija
97. D Kalaj: 5 International symposium of mathematical analysis and its applictaions, MAA5, Niška Banja, October 2-6 , 2002

98. D Kalaj: On the Nitsche's conjecture for harmonic mappings in R2 and in R3. 986 TH AMS Meeting, Courant Institute New York, April 12-13, 2003 page 48-48
99. D Kalaj: M Pavlovic: Boundary correspondence under harmonic quasiconformal mapping of the halfplane, The book of abstract of XI Congress of Yugoslav Mathematicians, page 32, Petrovac,Octobar 2004.
100. D. Kalaj: On the first and on the radial derivative of harmonic function defined on the unit ball, Proceedings of the Workshop devoted to 25 anniversary of the Faculty of Natural Sciences and mathematics, University of Montenegro, Septembar 2005.
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103. D Kalaj: Quasiconformal harmonic maps, Seminar: Mathematical Colloquim, Beograd 11. 05. 2007. http://www.mi.sanu.ac.yu/colloquiums/mathcoll_prog rams/mathcoll.may2007.htm, Invited lecture
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105. D. Kalaj: On quasiconformal harmonic mappings, Congress in memory of Adrien Douady, Paris, France Maj, 2008, Poster.
106. D. Kalaj: Boundary correspondence under q.c. harmonic mappings between Jordan domains, Mini conference on quasiconformal harmonic mappings, Beograd, Srbija, 2009, septembar, Invited lecture .
107. D. Kalaj: On quasiconformal mappings and elliptic PDE in the plane, Helsinki seminar on Analysis, October, 2010, invited lecture .
108. D. Kalaj: On quasiconformal mappings and elliptic PDE in the plane, Turku seminar on Analysis, October, 2010, invited lecture.
109. D. Kalaj: Deformation of annuli under smallest mean distortion on Riemann surfaces Workshop on Quasiconformal mappings and Mappings of finite distortion, Prague, September 2011, Invited speaker.
110. D. Kalaj: Deformation of annuli under smallest mean distortion on Riemann surfaces and generalization of J. C. C. Nitsche Conjecture Workshop on Complex Analysis, Belgrade, February 2012. Invited lecture .
111. D. Kalaj: Deformations of Annuli on Riemann surfaces and the generalization of Nitsche conjecture and Quasiconformal harmonic mappings, Invited lecture , International Conference on Complex Analysis and Related Topics, Romania, Ploiesti 2012. http://imar.ro/RoFinSem2012/conf.php, Romanian finish seminar.
112. D. Kalaj: Deformations of Annuli on Riemann surfaces and the generalization of Nitsche conjecture, The 6th European Congress of Mathematics, 2012. Poster.

113. David Kalaj: Cauchy transform and Poisson equation, Turku analysis seminar, Finska (4.10. 2012) http://users.utu.fi/ripekl/seminar/index.html
114. David Kalaj, Energy-minimal diffeomorphisms between doubly connected Riemann surfaces, "Conference on Riemann surfaces and Kleinian groups", held in Osaka University, Japan, from January 12 to January 14, 2013.
115. David Kalaj, Quasiconformal harmonic mappings between surfaces, Conference of Geometric function theory, October 2013, Beograd.
116. David Kalaj, Muckenhoupt weights and Lindelöf theorem for harmonic mappings, March 2014, Helsinki seminar of analysis, Helsinki 2014.

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