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RECTORATUL

## Universitatea Babeş-Bolyai Competiția Excelenței 2010

Dosar individual

**Notă: Toate datele se referă la perioada 2005-2009**

<b>Nume, prenume, grad did.</b>	<b>GABRIELA KOHR, PROF. DR.</b>
<b>Facultatea, Catedra</b>	Facultatea de Matematica si Informatica, Catedra de Algebra, Analiza si Geometrie
<b>Domeniul științific</b>	Matematica
<b>Adresa paginii web personale</b>	<a href="http://www.math.ubbcluj.ro/~gkohr">www.math.ubbcluj.ro/~gkohr</a>
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### Criteriaul I – Output

**1. Articole științifice publicate în reviste indexate ISI (cu menționare factorului de impact în cazul celor cotate)**

1. I. Graham, H. Hamada, **G. Kohr**, J.A. Pfaltzgraff, *Convex subordination chains in several complex variables*, Canadian J. Math., 61(2009), 566-582.

**Factor impact/2008=0.5**

2. H. Hamada, T. Honda, **G. Kohr**, *Bohr's theorem for holomorphic mappings with values in homogeneous balls*, Israel J. Math., 173(2009), 177-187.

**Factor impact/2008=0.625**

3. C.H. Chu, H. Hamada, T. Honda, **G. Kohr**, *Starlike and convex mappings on infinite dimensional domains*, Math. Nachr. 282, No. 2(2009), 160-168.

**Factor impact/2008=0.537**

4. I. Graham, H. Hamada, **G. Kohr**, M. Kohr, *Parametric representation and asymptotic starlikeness in  $\mathbb{C}^n$* , Proc. Amer. Math. Soc., 136(2008), 3963-3973.

**Factor impact/2008=0.584**

5. I. Graham, H. Hamada, **G. Kohr**, M. Kohr, *Asymptotically spirallike mappings in several complex variables*, J. Anal. Math., 105(2008), 267-302.

**Factor impact/2008=0.675**

6. I. Graham, H. Hamada, **G. Kohr**, M. Kohr, *Spirallike mappings and univalent subordination chains in  $\mathbb{C}^n$* , Annali della Scuola Normale Superiore di Pisa, Classe di Scienze, 7(2008), 717-740.

**Factor impact/2008=0.519**

7. P. Curt, **G. Kohr**, *Some remarks concerning quasiconformal extensions in several complex variables*, Journal of Inequalities Appl., Volume 2008, Article ID 690932, 16 pages.

**Factor impact/2008=0.764**

8. H. Hamada, T. Honda, **G. Kohr**, *Parabolic starlike mappings in several complex variables*, Manuscripta Mathematica, 123(2007), 301-324.

**Factor impact/2008=0.509**

9. **G. Kohr**, P.T. Mocanu, I. Serb, *Convex and alpha-prestarlike subordination chains*, J. Math. Anal. Appl., 332(2007), 463-474.

**Factor impact/2008=1.046**

10. P. Curt, **G. Kohr**, *The asymptotical case of certain quasiconformal extension results for holomorphic mappings in  $C^n$* , Bull. Belgian Math. Soc. Simon Stevin, 14(2007), 653-667.

**Factor impact/2008=0.236**

11. I. Graham, H. Hamada, **G. Kohr**, *Radius problems for holomorphic mappings on the unit ball in  $C^n$* , Math. Nachr., 279(2006), 1474-1490.

**Factor impact/2008=0.537**

12. I. Graham, **G. Kohr**, *The Roper-Suffridge extension operator and classes of biholomorphic mappings*, Science in China Series A-Mathematics, 49(2006), 1539-1552.

**Factor impact/2008=0.408**

13. H. Hamada, T. Honda, **G. Kohr**, *Growth theorems and coefficient bounds for univalent holomorphic mappings which have parametric representation*, J. Math. Anal. Appl., 317(2006), 302-319.

**Factor impact/2008=1.046**

14. H. Hamada, **G. Kohr**, *Quasiconformal extension of biholomorphic mappings in several complex variables*, J. Anal. Math., 96(2005), 269-282.

**Factor impact/2008=0.675**

## **2. Articole științifice publicate în ISI proceedings**

1. I. Graham, **G. Kohr**, J. Pfaltzgraff, *The general solution of the Loewner differential equation on the unit ball in  $C^n$* , Contemporary Mathematics (AMS), 382(2005), 191-203.

## **3. Articole științifice indexate în BDI (din lista CNCSIS)**

1. I. Graham, **G. Kohr**, J.A. Pfaltzgraff, *Growth and two-point distortion for biholomorphic mappings of the ball*, Complex Variables and Elliptic Equations, 52(2007), 211-223.

2. H. Hamada, **G. Kohr**, *k-fold symmetrical mappings and Loewner chains*, Demonstratio Math., 40(2007), 85-94.

3. H. Hamada, **G. Kohr**, M. Kohr, *Parametric representation and extension operators for biholomorphic mappings on some Reinhardt domains*, Complex Variables Theory Appl., 50(2005), 507-519.

4. I. Graham, **G. Kohr**, J.A. Pfaltzgraff, *Parametric representation and linear functionals associated with extension operators for biholomorphic mappings*, Rev. Roumaine Math. Pures Appl., 52(2007), 47-68.

5. P. Curt, **G. Kohr**, *Quasiconformal extensions and q-subordination chains in  $C^n$* , Mathematica (Cluj), 49(72)(2007), 149-159.

6. **G. Kohr**, *Loewner chains and a modification of the Roper-Suffridge extension operator*, Mathematica (Cluj), 48(71)(2006), 41-48.

7. **G. Kohr**, *Subordination chains and solutions of the Loewner differential equation in  $C^n$* , Mathematica (Cluj), 47(70), No. 1(2005), 77-88.

## **4. Alte articole științifice/capitole publicate în reviste/volume cu referenți (peer-reviewed)**

## **5. Cărți științifice publicate în edituri internaționale**

## **6. Cărți științifice publicate în edituri naționale acreditate**

1. **G. Kohr**, P. Mocanu, *Capitole Speciale de Analiză Complexă*, Presa Universitară Clujeană, 2005, 267 pp. ISBN: 973-610-387-0.

**7. Editor de volume publicate în edituri naționale și internaționale**

**8. Brevete internaționale**

**9. Brevete naționale**

**10. Impact tehnologic al brevetelor: resurse financiare extrabugetare atrase în relație cu economia**

**11. Realizări artistice naționale și internaționale (Domeniul Arte)**  
(Expoziții, spectacole, concerte, publicații, filme, înregistrări)

## Criteria II – Prestigiu profesional

### 1. Citări ale articolelor ISI listate la Criteriul I

[1]. Q. Xu, T. Liu, The study for some subclasses of biholomorphic mappings by an unified method, Chinese Quart. J. Math., 21(2006), 166-175, citează

1. H. Hamada, T. Honda, **G. Kohr**, *Growth theorems and coefficient bounds of biholomorphic mappings which have parametric representation*, Journal of Mathematical Analysis and Applications, 317(2006), 302-319.

[2]. Yu-Can Zhu, M.S. Liu, The generalized Roper-Suffridge extension operator on bounded complete Reinhardt domains, Science in China, Ser. A. Mathematics, 50(2007), 1781–1794, citează

1. I. Graham, **G. Kohr**, *The Roper-Suffridge extension operator and classes of biholomorphic mappings*, Science in China Series A-Mathematics, 49(2006), 1539-1552.

[3]. Yu-Can Zhu, M.S. Liu, Loewner chains associated with the generalized Roper-Suffridge extension operator on some domains, J. Math. Anal. Appl., 337(2008), 949-961, citează

1. H. Hamada, T. Honda, **G. Kohr**, *Growth theorems and coefficient bounds for univalent holomorphic mappings which have parametric representation*, J. Math. Anal. Appl., **317**(2006), 302-319.

[4]. H. Hamada, T. Honda, Sharp growth theorems and coefficient bounds for starlike mappings in several complex variables, Chinese Ann. Math. Ser. B, 29(2008), 353-368, citează lucrările

1. H. Hamada, T. Honda, **G. Kohr**, *Growth theorems and coefficient bounds for univalent holomorphic mappings which have parametric representation*, J. Math. Anal. Appl., **317**(2006), 302-319.

2. H. Hamada, T. Honda, **G. Kohr**, *Parabolic starlike mappings in several complex variables*, Manuscripta Math., 123(2007), 301-324.

[5]. F. Bracci, M.D. Contreras, S. Diaz-Madrigal, *Evolution families and the Loewner equation II. Complex hyperbolic manifolds*, Mathematische Annalen, 344(2009), 947-962, citează

1. I. Graham, H. Hamada, **G. Kohr**, M. Kohr, *Spirallike mappings and univalent subordination chains in  $\mathbb{C}^n$* , Ann. Scuola Norm. Sup. Pisa-Cl. Scienze, Serie 5, 7(2008), 717-740.

[6]. Yu-Can Zhu, M.S. Liu, *The generalized Roper-Suffridge extension operator in Banach spaces (III)*, Science in China Ser. A., 52(2009), 2432–2446, citează

1. I. Graham, **G. Kohr**, *The Roper-Suffridge extension operator and classes of biholomorphic mappings*, Science in China Series A-Mathematics, 49(2006), 1539-1552.

[7]. Qing-Hua Xu, T.S. Liu, *Coefficient bounds for biholomorphic mappings which have the parametric representation*, J. Math. Anal. Appl., 355(2009), 126-130, citează lucrările

1. H. Hamada, T. Honda, **G. Kohr**, *Growth theorems and coefficient bounds for univalent holomorphic mappings which have parametric representation*, Journal of Mathematical Analysis and Applications, 317(2006), 302-319.

2. H. Hamada, T. Honda, **G. Kohr**, *Parabolic starlike mappings in several complex variables*, Manuscripta Mathematica, 123(2007), 301-324.

[8]. Qing-Hua Xu, Tai-Shun Liu, *On coefficient estimates for a class of holomorphic mappings*, Science in China Ser. A: Mathematics, 52(2009), 677-686, citează

1. H. Hamada, T. Honda, **G. Kohr**, *Growth theorems and coefficient bounds for univalent holomorphic mappings which have parametric representation*, Journal of Mathematical Analysis and Applications, 317(2006), 302-319.

[9]. P. Curt, *Loewner chains and quasiconformal extensions of holomorphic mappings in  $\mathbb{C}^n$* , Mathematica (Cluj), 51(74)(2009), 143-151, citează lucrările:

1. P. Curt, **G. Kohr**, *The asymptotical case of certain quasiconformal extension results for holomorphic mappings in  $\mathbb{C}^n$* , Bulletin Belgian Math. Soc. Simon Stevin, 14(2007), 653-667.

2. P. Curt, **G. Kohr**, *Some remarks concerning quasiconformal extensions in several complex variables*, Journal of Inequalities and Applications, Volume 2008, Article ID 690932, 16 pages.

3. H. Hamada, **G. Kohr**, *Quasiconformal extension of biholomorphic mappings in several complex variables*, Journal d'Analyse Mathematique, 96(2005), 269-282.

[10] P. Curt, *Subordination chains and quasiconformal extensions of holomorphic mappings in  $\mathbb{C}^n$* , Studia (Univ. Babeş-Bolyai), Mathematica, 54(2009), 19-26, citează lucrările:

1. P. Curt, **G. Kohr**, *The asymptotical case of certain quasiconformal extension results for holomorphic mappings in  $\mathbb{C}^n$* , Bulletin Belgian Math. Soc. Simon Stevin, 14(2007), 653-667.

2. P. Curt, **G. Kohr**, *Some remarks concerning quasiconformal extensions in several complex variables*, Journal of Inequalities and Applications, Volume 2008, Article ID 690932, 16 pages.
3. H. Hamada, **G. Kohr**, *Quasiconformal extension of biholomorphic mappings in several complex variables*, Journal d'Analyse Mathématique, 96(2005), 269-282.

## 2. Alte citări ale lucrărilor listate mai sus

[1]. T. Honda, *Some geometric mappings on the open unit ball*, Proceedings of the 15<sup>th</sup> ICFIDCAA Osaka 2007, OCAMI Studies, 2(2008), 201-206, citează lucrările:

1. H. Hamada, T. Honda, **G. Kohr**, *Growth theorems and coefficient bounds for univalent holomorphic mappings which have parametric representation*, Journal of Mathematical Analysis and Applications, 317(2006), 302-319.

[2]. P. Curt, *Loewner chains and quasiconformal extensions of holomorphic mappings in  $\mathbb{C}^n$* , Mathematica (Cluj), 51(74)(2009), 143-151, citează:

1. P. Curt, **G. Kohr**, *Quasiconformal extensions and  $q$ -subordination chains in  $\mathbb{C}^n$* , Mathematica (Cluj), 49(72)(2007), 149-159.

[3]. P. Curt, *Subordination chains and quasiconformal extensions of holomorphic mappings in  $\mathbb{C}^n$* , Studia Univ. Babeş-Bolyai, Mathematica, 54(2009), 19-26, citează:

1. P. Curt, **G. Kohr**, *Quasiconformal extensions and  $q$ -subordination chains in  $\mathbb{C}^n$* , Mathematica (Cluj), 49(72)(2007), 149-159.

## 3. Citări în perioada 2005-2009 ale articolelor anterioare anului 2005

[1]. T. Honda, *Some geometric mappings on the open unit ball*, Proceedings of the 15<sup>th</sup> ICFIDCAA Osaka 2007, OCAMI Studies, 2(2008), 201-206, citează lucrările:

1. I. Graham, H. Hamada, **G. Kohr**, *Parametric representation of univalent mappings in several complex variables*, Canadian Journal of Mathematics, 54(2002), 324-351.

2. H. Hamada, **G. Kohr**, P. Liczberski, *Starlike mappings of order  $\alpha$  on the unit ball in complex Banach spaces*, Glasnik Matem., Ser. III, 36(56)(2001), 39-48.

3. H. Hamada, **G. Kohr**, *Growth and distortion results for convex mappings in infinite dimensional spaces*, Complex Variables Theory Appl., 47(2002), 291-301.

4. **G. Kohr**, *Using the method of Loewner chains to introduce some subclasses of biholomorphic mappings in  $\mathbb{C}^n$* , Revue Roumaine Math. Pures Appl. 46 (2001), 743-760.

[2]. Y. Zhu, M. Liu, *The generalized Roper-Suffridge extension operator in Banach spaces (II)*, J. Math. Anal. Appl., 303(2005), 530-544, citează lucrările:

1. I. Graham, **G. Kohr**, M. Kohr, *Loewner chains and the Roper-Suffridge extension operator*, Journal of Mathematical Analysis and Applications, vol.247, 448-465, 2000.

2. I. Graham, **G. Kohr**, *Univalent mappings associated with the Roper-Suffridge extension operator*, Journal d'Analyse Mathématique, vol.81, 331-342, 2000.

3. I. Graham, **G. Kohr**, *An extension theorem and subclasses of univalent mappings in several complex variables*, Complex Variables Theory Appl., 47(2002), 59-72.

4. I. Graham, H. Hamada, **G. Kohr**, T. Suffridge, *Extension operators for locally univalent mappings*, Michigan Math. J. 50(2002), 37-55.

[3]. Y. Zhu, M. Liu, *Distortion theorems for biholomorphic convex mappings in Banach spaces*, Complex Variables, 50(2005), 57-68, citează lucrările:

1. H. Hamada, **G. Kohr**, *Growth and distortion results for convex mappings in infinite dimensional spaces*, Complex Variables Theory Appl. 47(2002), 291-301.

2. H. Hamada, **G. Kohr**,  *$\Phi$ -like and convex mappings in infinite dimensional spaces*, Rev. Roumaine Math. Pures Appl., 47(2002), 315-328.

[4]. M-S. Liu, Y. Zhu, *Some sufficient conditions for biholomorphic convex mappings on  $B(p)^n$* , J. Math. Anal. Appl. 316(2006), 210-228, citează lucrarea:

H. Hamada, **G. Kohr**, *Simple criteria for strongly starlikeness and starlikeness of certain order*, Math. Nachr. 254/255(2003), 165-171

[5]. M-S. Liu, Y. Zhu, *On the generalized Roper-Suffridge extension operator in Banach spaces*, Int. J. Math. Math. Sci., 8(2005), 1171-1187, citează lucrările:

1. I. Graham, **G. Kohr**, M. Kohr, *Loewner chains and the Roper-Suffridge extension operator*, Journal of Mathematical Analysis and Applications, vol.247, 448-465, 2000.

2. I. Graham, **G. Kohr**, *Univalent mappings associated with the Roper-Suffridge extension operator*, Journal d'Analyse Mathematique, vol.81, 331-342, 2000.
3. I. Graham, **G. Kohr**, *An extension theorem and subclasses of univalent mappings in several complex variables*, Complex Variables Theory Appl., 47(2002), 59-72.
4. I. Graham, H. Hamada, **G. Kohr**, T. Suffridge, *Extension operators for locally univalent mappings*, Michigan Math. J. 50(2002), 37-55.
- [6]. Yu-Can Zhu, Ming-Sheng Liu, *Criteria for biholomorphic convex mappings on the unit ball in Hilbert spaces*, Journal Math. Anal. Appl., 322(2006), 495-511, citează
1. H. Hamada, **G. Kohr**, *Simple criteria for strongly starlikeness and starlikeness of certain order*, Math. Nachr. 254/255(2003), 165-171
  2. H. Hamada, **G. Kohr**,  *$\Phi$ -like and convex mappings in infinite dimensional spaces*, Rev. Roumaine Math. Pures Appl., 47(2002), 315-328.
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1. I. Graham, **G. Kohr**, *Univalent mappings associated with the Roper-Suffridge extension operator*, Journal d'Analyse Mathematique, vol.81, 331-342, 2000
  2. I. Graham, H. Hamada, **G. Kohr**, T. Suffridge, *Extension operators for locally univalent mappings*, Michigan Math. J. 50(2002), 37-55
- [8]. M. Cristea, *A generalization of Schwarz lemma*, Math. Reports, 7(57), 3(2005), 205-217, citeaza lucrarea:  
**G. Kohr**, *Certain sufficient conditions of injectivity in  $\mathbf{C}^n$* , Demonstratio Math., 31(1998), 395-404.
- [9]. Tai-Shu Liu, Qing-Hua Xu, *Loewner chains asociated with the generalized Roper-Suffridge extension operator*, J. Math. Anal. Appl., 322(2006), 107-120, citează lucrările:
1. I. Graham, **G. Kohr**, M. Kohr, *Loewner chains and the Roper-Suffridge extension operator*, Journal of Mathematical Analysis and Applications, vol.247, 448-465, 2000.
  2. I. Graham, **G. Kohr**, *Univalent mappings associated with the Roper-Suffridge extension operator*, Journal d'Analyse Mathematique, vol.81, 331-342, 2000.
  3. I. Graham, **G. Kohr**, *An extension theorem and subclasses of univalent mappings in several complex variables*, Complex Variables Theory Appl., 47(2002), 59-72.
  4. I. Graham, H. Hamada, **G. Kohr**, T. Suffridge, *Extension operators for locally univalent mappings*, Michigan Math. J. 50(2002), 37-55
  5. H. Hamada, **G. Kohr**, *Subordination chains and the growth theorem of spirallike mappings*, Mathematica (Cluj), 42(65), 153-162, 2000.
  6. **G. Kohr**, *Using the method of Loewner chains to introduce some subclasses of biholomorphic map pings in  $\mathbf{C}^n$* , Rev. Roumaine Math. Pures Appl. 46 (2001), 743-760.
  7. I. Graham, H. Hamada, **G. Kohr**, *Parametric representation of univalent mappings in several complex variables*, Canadian J. Math. 54(2002), 324-351.
- [10]. T. Liu, X. Liu, *A refinement about estimation of expansion coefficients for normalized biholomorphic mappings*, Science in China Ser. A. Math., 48(7)(2005), 865-879, citează
1. **G. Kohr**, *On some best bounds for coefficients of several subclasses of biholomorphic mappings in  $\mathbf{C}^n$* , Complex Variables, vol.36, 261-284, 1998.
  2. H. Hamada, **G. Kohr**, *Growth and distortion results for convex mappings in infinite dimensional spaces*, Complex Variables Theory Appl., 47(2002), 291-301.
- [11]. T. Bulboacă, *Differential Subordinations and Superordinations. Recent Results*, Casa Cărtii de Știință, Cluj-Napoca, 2005, citează lucrările:
1. P.T. Mocanu, **G. Kohr**, M. Kohr, *Two simple suffcient conditions for convexity*, Studia (Mathematica), Univ. Babeș-Bolyai, vol.37, nr.4, 23-33, 1992.
  2. **G. Kohr**, M. Kohr, *An application of differential subordinations and some criteria for starlikeness*, Mathematica (Cluj), vol.35(58), nr.2, 161-168, 1993.
- [12]. Ming-Sheng Liu, Yu-Can Zhu, *On  $\varepsilon$  quasi-convex mappings in the unit ball of a complex Banach space*, J. Math. Anal. Appl., 323(2006), 1047-1070, citează lucrările:
1. I. Graham, **G. Kohr**, M. Kohr, *Loewner chains and the Roper-Suffridge extension operator*, Journal of Mathematical Analysis and Applications, vol.247, 448-465, 2000.
  2. I. Graham, **G. Kohr**, *Univalent mappings associated with the Roper-Suffridge extension operator*, Journal d'Analyse Mathematique, vol.81, 331-342, 2000.
  3. I. Graham, **G. Kohr**, *An extension theorem and subclasses of univalent mappings in several complex variables*, Complex Variables Theory Appl., 47(2002), 59-72.

4. I. Graham, H. Hamada, **G. Kohr**, T. Suffridge, Extension operators for locally univalent mappings, Michigan Math. J. 50(2002), 37-55.
- [13]. H. Liu, Z. Zhang, K. Lu, *The parametric representation for spiral-like mappings of type  $\alpha$  on bounded balanced pseudoconvex domains*, Acta Mathematica Scientia, 26B(2006), 421-430, citează lucrarea:  
H. Hamada, **G. Kohr**, P. Liczberski,  *$\Phi$ -like holomorphic mappings on balanced pseudoconvex domains*, Complex Variables, 39(1999), 279-290.
- [14]. X. Liu, *The generalized Roper-Suffridge extension operator for some biholomorphic mappings*, J. Math. Anal. Appl., 324(2006), 604-614, citează lucrările:  
1. I. Graham, **G. Kohr**, M. Kohr, *Loewner chains and the Roper-Suffridge extension operator*, Journal of Mathematical Analysis and Applications, vol.247, 448-465, 2000.  
2. I. Graham, **G. Kohr**, *Univalent mappings associated with the Roper-Suffridge extension operator*, Journal d'Analyse Mathématique, vol.81, 331-342, 2000.  
3. I. Graham, **G. Kohr**, *An extension theorem and subclasses of univalent mappings in several complex variables*, Complex Variables Theory Appl., 47(2002), 59-72.  
4. I. Graham, H. Hamada, **G. Kohr**, T. Suffridge, Extension operators for locally univalent mappings, Michigan Math. J. 50(2002), 37-55  
5. G. Kohr, On certain conditions of starlikeness of order  $\alpha$  in  $\mathbb{C}^n$ , Zesz. Nauk. Politech. Rzeszow, Mat. 20(1996), 61-72.
- [15]. Qing-Hua Xu, Tai-Shun Liu, *Loewner chains and a subclass of biholomorphic mappings*, J.Math. Anal. Appl., 334(2007), 1096-1105, citează lucrările:  
1. I. Graham, **G. Kohr**, M. Kohr, *Loewner chains and the Roper-Suffridge extension operator*, Journal of Mathematical Analysis and Applications, vol.247, 448-465, 2000.  
2. I. Graham, **G. Kohr**, *Univalent mappings associated with the Roper-Suffridge extension operator*, Journal d'Analyse Mathématique, vol.81, 331-342, 2000.  
3. I. Graham, **G. Kohr**, *An extension theorem and subclasses of univalent mappings in several complex variables*, Complex Variables Theory Appl., 47(2002), 59-72.  
4. I. Graham, H. Hamada, **G. Kohr**, T. Suffridge, Extension operators for locally univalent mappings, Michigan Math. J. 50(2002), 37-55  
5. I. Graham, **G. Kohr**, M. Kohr, *Basic properties of Loewner chains in several complex variables*. In: Geometric Function Theory in Several Complex Variables, 165--181, World Sci. Publishing, River Edge, NJ, 2004  
6. I. Graham, H. Hamada, **G. Kohr**, *Parametric representation of univalent mappings in several complex variables*, Canadian J. Math. 54(2002), 324-351.  
7. I. Graham, **G. Kohr**, M. Kohr, *Loewner chains and parametric representation of biholomorphic mappings in several complex variables*, J. Math. Anal. Appl., 281(2003), 425-438.  
8. H. Hamada, **G. Kohr**, *Subordination chains and the growth theorem of spirallike mappings*, Mathematica (Cluj), 42(65), 153-162, 2000.
- [16]. J.A. Pfaltzgraff, T.J. Suffridge, *Koebe invariant functions and extremal problems for holomorphic mappings on the unit ball in  $\mathbb{C}^n$* , Computational Meth. Funct. Theory, 7(2007), 379-399, citează lucrarea  
I. Graham, **G. Kohr**, *Univalent mappings associated with the Roper-Suffridge extension operator*, Journal d'Analyse Mathématique, vol.81, 331-342, 2000.
- [17]. Yu-Can Zhu, Ming-Sheng Liu, *Second order differential subordinations of holomorphic mappings on bounded convex balanced domain in  $\mathbb{C}^n$* , J. Inequalities in Pure and Applied Mathematics, 8(2007), no. 4, article 104, 1-15, citează lucrarea  
H. Hamada, **G. Kohr**, M. Kohr, *First order partial differential subordinations on bounded balanced pseudoconvex domains in  $\mathbb{C}^n$* , Mathematica (Cluj), 41(64)(1999), 161-175.
- [18]. Ming-Sheng Liu, Yu-Can Zhu, *On some sufficient conditions for starlikeness of order  $\alpha$  in  $\mathbb{C}^n$* , Taiwanese J. Math., 10(2006), 1169-1182, citează lucrarea  
**G. Kohr**, *Certain partial differential inequalities and applications for holomorphic mappings defined on the unit ball of  $\mathbb{C}^n$* , Ann. Univ. Mariae-Curie Sklodowska, Sect.A, vol.60, 87-94, 1996.
- [19]. X.S. Liu, T.S. Liu, *The refining growth, covering theorems and the refining estimation of expansion coefficients for spirallike mappings of type  $\alpha$* , Acta Math. Sinica, Chinese Series, 49(2006), 567-576, citează lucrările  
1. H. Hamada, **G. Kohr**, *Subordination chains and the growth theorem of spirallike mappings*, Mathematica (Cluj), vol.42(65), 153-161, 2000.  
2. **G. Kohr**, *On some best bounds for coefficients of several subclasses of biholomorphic mappings in  $\mathbb{C}^n$* , Complex Variables, vol.36, 261-284, 1998.

[20]. X. Liu, *On the quasi-convex mappings on the unit polydisc in  $\mathbb{C}^n$* , J. Math. Anal. Appl., 335(2007), 43-55, citează lucrarea

**G. Kohr**, *On some best bounds for coefficients of several subclasses of biholomorphic mappings in  $\mathbb{C}^n$* , Complex Variables, vol.36, 261-284, 1998.

[21]. T. Liu, Q. Xu, *On quasi-convex mappings of order  $\alpha$  in the unit ball of a complex Banach space*, Science in China Series A, 49(2006), 1451-1457, citează lucrarea

I. Graham, H. Hamada, **G. Kohr**, T. Suffridge, *Extension operators for locally univalent mappings*, Michigan Math. J. 50(2002), 37-55

[22]. Q. Xu, T. Liu, *The study for some subclasses of biholomorphic mappings by an unified method*, Chinese Quart. J. Math., 21(2006), 166-175, citează lucrările

1. I. Graham, H. Hamada, **G. Kohr**, *Parametric representation of univalent mappings in several complex variables*, Canadian J. Math. 54(2002), 324-351.

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I. Graham, **G. Kohr**, Geometric Function Theory in One and Higher Dimensions, Marcel Dekker Inc., New York-Basel, 2003, 530 pag., ISBN 0-8247-0976-4.

#### 4. Distincții, premii și alte recunoașteri naționale și internaționale

**Premiul Spiru Haret al Academiei Române** (pe anul 2003) acordat în anul 2005 pentru monografia: I Graham, **G. Kohr**, Geometric Function Theory in One and Higher Dimensions, Marcel Dekker, New York, 2003.

#### 5. Studenți naționali atrași (activități de coordonare științifică și didactică)

- Îndrumare lucrari de licență (număr lucrări susținute)

Anual aproximativ 3 lucrari licenta.

- Îndrumare lucrări de disertație (număr lucrări susținute)

Anual aproximativ 3 lucrari disertatie.

Mentionez cativa studenti de exceptie pe care i-am coordonat la lucrarile de disertatie:

1. Mircea Voda (2006); in prezent doctorand la University of Toronto, Department of Mathematics;
2. Ovidiu Bagdasar (2007); in prezent il coordonez la doctorat; este doctorand si la Univ. Nottingham, UK.
3. Tamas Darvas (2009); in prezent doctorand la Purdue University (USA).

- Doctoranzi (lista nominală a doctoranzilor înmatriculați resp. lista nominală a tezelor susținute)

Doctorand Ovidiu Bagdasar, din 2007. Titlul tezei sale de doctorat: *Aplicatii ale analizei complexe in mecanica fluidelor.*

- Post-doctoranzi (lista nominală)

#### 6. Studenți internaționali atrași (activități de coordonare științifică și didactică)

- Îndrumare lucrari de licenta (număr lucrări susținute)

- Îndrumare lucrări de disertație (număr lucrări susținute)

- Doctoranzi (lista nominală a doctoranzilor înmatriculați resp. lista nominală a tezelor susținute)

- Post-doctoranzi (lista nominală)

#### 7. Membru in comitetul de redacție la reviste ISI

Referent la: *Journal of Mathematical Analysis and Applications, Rocky Mount. J. Math., Applied Mathematics Letters, Journal of Inequalities and Applications, Computers and Mathematics with Applications, Journal of the Australian Mathematical Society Series A, Math. Nachr., Science in China Ser. A, Bulletin of the Belgian Math. Soc.-Simon Stevin, Carpathian Journal of Mathematics.*

## 8. Membru in comitetul de redacție la reviste BDI

Membră în comitetul de redacție a revistei Journal of Inequalities in Pure and Applied Mathematics (JIPAM) (Australia), din 2005.

Membră în comitetul de redacție a revistei Mathematica (Cluj), din 2007.

Recenzent la *Mathematical Reviews* și *Zentralblatt für Mathematik* din 2000.

Referent la: *International Journal of Mathematics and Mathematical Sciences*, *Glasnik Matematiki*, *Studia (Mathematica) Univ. Babeș-Bolyai*, *Mathematica (Cluj)*, *Soochow Math. J.*, *Publicationes Inst. Math. (Beograd)*, *Computational Methods and Function Theory*, *Complex Variables and Elliptic Equations*, *Journal of Applied Analysis*, *Note di Matematica*, *Carpathian Journal of Mathematics*, *Banach Journal of Mathematical Analysis*, *Applicable-Analysis Discr.Math.*, *Mathematica (Cluj)*.

## 9. Participări la programe/granturi de cercetare finanțate din sursă internațională (se menționează și valoarea)

În perioada 2005-2009 am efectuat vizite anuale de cercetare la University of Toronto, Department of Mathematics, suportate partial sau total din grantul: Natural Sciences and Engineering Research Council of Canada grant A9221, condus de Prof. dr. Ian Graham  
Research collaborator of the research grant: Natural Sciences and Engineering Research Council of Canada grant A9221, director Prof. dr. Ian Graham, University of Toronto, Department of Mathematics.

## 10. Participări la programe/granturi finanțate din sursă națională (se menționează și valoarea)

Grant tema nr 75, cod CNCISIS 348, anul 2005: METODE GEOMETRICE ÎN TEORIA FUNCȚIILOR REALE ȘI COMPLEXE. APLICAȚII. Director de grant: Prof. dr. G. Sălăgean; 25300 lei

Grant CNCISIS cod 348, nr. 575, anul 2006: METODE GEOMETRICE ÎN TEORIA FUNCȚIILOR REALE ȘI COMPLEXE. APLICAȚII. Director de grant: Prof. dr. G. Sălăgean ; 20700 lei

Grant CNCISIS cod 1463, 2007-2008, UTILIZAREA METODELOR GEOMETRICE SI ANALITICE IN STUDIUL FUNCȚIILOR REALE SI COMPLEXE DE UNA SAU MAI MULTE VARIABILE.APLICATII. Director de grant: Prof. dr. G. Sălăgean; 147825 lei

Grant PN-II-IDEI 525 (2007-2010), STUDIUL UNOR MIȘCĂRI FLUIDE VÂSCOASE ÎN MEDII POROASE CU APLICAȚII ÎN BIOLOGIE ȘI MEDICINĂ. Director de grant: Prof. dr. Mirela Kohr  
Valoare/2007: **9595 lei**; Valoare/2008: **62051,07 lei**; Valoare/2009: **42086,09 lei**

Romanian Ministry of Education and Research, CEEX Program, Project 2-CEX06-11-10/2006, 2006-2008; 348064 lei

## 11. Coordonări de programe/granturi finanțate din sursă internațională (se menționează și valoarea)

## 12. Coordonări de programe/granturi finanțate din sursă națională (se menționează și valoarea)

1. Grant tip A cod CNCISIS **339** (2004-2006): **CONTRIBUȚII ÎN TEORIA GEOMETRICĂ A FUNCȚIILOR DE UNA ȘI MAI MULTE VARIABILE COMPLEXE**

1. Tema **41/2005**: Valoare fază (unică): 11730 RON

2. Tema **32/2006**: Valoare fază (unică): 14720 RON

2. Grant tip A cod CNCISIS **1472** (2007-2008): **PROBLEME MODERNE ÎN TEORIA FUNCȚIILOR UNIVALENTE DE UNA ȘI MAI MULTE VARIABILE COMPLEXE. APLICAȚII**

1 Tema **5/2007**: Valoare fază (unică)/2007: 41400 RON

2. Tema **32/2008**: Valoare fază (unică)/2008: 45425 RON



3. Grant UEFISCSU-CNCSIS PN-II-ID cod 524 (2007-2010): **LANȚURI LOEWNER ȘI SUBORDONĂRI DIFERENȚIALE PENTRU FUNCȚII DE UNA ȘI MAI MULTE VARIABLE COMPLEXE. EXTINDERI CVASICONFORME ȘI APLICAȚII ÎN MECANICA FLUIDELOR**

Valoare/2007: 9595 lei; Valoare/2008: 62616,8 lei ; Valoare/2009: 41582,57lei

**13. Profesor invitat la universitati de prestigiu, cu titlu oficial**

1. University of Toronto, Department of Mathematics, 14 Aprilie-15 Mai 2005 (visiting professor), invited by Prof. I. Graham
2. Institute for Applied Analysis and Numerical Simulation of the University of Stuttgart, invited by Professor W.L. Wendland, 31 Octombrie-5 Noiembrie 2005 (research visit)
3. University of Toronto, Department of Mathematics, 1 August-1 Septembrie 2006 (visiting professor), invited by Prof. I. Graham
4. Institute for Applied Analysis and Numerical Simulation of the University of Stuttgart, invited by Professor W.L. Wendland, 4-16 Decembrie 2006 (research visit)
5. University of Toronto, Department of Mathematics, 18 Aprilie-20 Mai 2007 (visiting professor), invited by Prof. I. Graham
6. University of Toronto, Department of Mathematics, 28 Aprilie-28 Mai 2008 (visiting professor), invited by Prof. I. Graham
7. University of Toronto, Department of Mathematics, 18 August- 5 Septembrie 2008 (research visit), invited by Prof. I. Graham
8. Free University of Berlin, Department of Mathematics, 28 Septembrie-2 Octombrie 2008 (research visit); invited by Professor H. Begehr)
9. Institute for Applied Analysis and Numerical Simulation of the University of Stuttgart, invited by Professor W.L. Wendland, 9-13 Decembrie 2008 (research visit)
10. University of Toronto, Department of Mathematics, 1-30 Mai 2009 (research visit), invited by Prof. I. Graham
11. Institute for Applied Analysis and Numerical Simulation of the University of Stuttgart, invited by Professor W.L. Wendland, 23-31 July 2009 (research visit).

**14. Membru în comisii profesionale relevante, cu titlu oficial**

Membru in comisiile de doctorat la doua teze de doctorat conduse de Prof. Dr. Cabiria Andreian Cazacu, Universitatea Bucuresti, Facultatea de Matematica si Informatica, in 2007 si 2008.

Membru American Mathematical Society si Societatea de Stiinte Matematice din Romania.

**15. Conferințe invitate internaționale**

1. 6<sup>th</sup> Congress of Romanian Mathematicians, Bucharest, June 28-July4, 2007, invited talk:  
**G. Kohr**, M. Kohr, *Asymptotically starlike and asymptotically spirallike mappings in several complex variables*
2. International Conference on Complex Analysis and Related Topics. The XI-th Romanian-Finnish Seminar, Alba Iulia, Romania, August14-19, 2008, invited talk;  
**G. Kohr**, M. Kohr, *Subordination chains and generalized parametric representation in several complex variables*
3. INDAM Workshop on Holomorphic Iteration, Semigroups, and Loewner Chains, Rome, September 9-12, 2008, invited talk;  
**G. Kohr**, M. Kohr, *New aspects in the theory of Loewner chains in several complex variables*
4. Modern Complex Analysis and Operator Theory and Applications, IV, El Escorial (Madrid), June 17-21, 2009, invited talk;  
**G. Kohr**, *Loewner chains and the generalized Loewner differential equation on the unit ball in  $C^n$*

5. International Conference on Complex Analysis and Related Topics, The 12th Romanian-Finnish Seminar, Turku (Finland), August 17-21, 2009, invited speaker (plenary lecture);

**G. Kohr**, *Solutions for the generalized Loewner differential equation and spirallike mappings in  $\mathbb{C}^n$*

**16. Membru în comitete de organizare sau științifice ale unor conferințe internaționale**

-Am participat la organizarea conferinței internaționale Romanian-Finish Seminar on Complex Analysis, Cluj-Napoca, August 2005.

-Am participat la organizarea conferinței “International conference on complex analysis dedicated on the 75<sup>th</sup> birthday of Professor P.T. Mocanu”, Cluj-Napoca, Iulie 2006.

### III. Realizare remarcabilă

(Descrieți într-o manieră cât mai accesibilă (în maximum 1 pagină) cea mai importantă realizare științifică/tehnică/artistică din ultimii 5 ani și impactul acesteia.)

Lucrarile de mai jos se refera la contributia proprie privind generalizarea teoriei lanturilor Loewner (lanturi de subordonare diferenciala) de la cazul unu-dimensional la cazul n-dimensional complex. Aceasta este una din cele mai atractive si moderne ramuri ale teoriei geometrice a functiilor de mai multe variabile complexe, deoarece abordarea sa implica tehnici si metode moderne, diferite de cele clasice folosite in planul complex. Pe de alta parte, prin intermediul acestei teorii au fost obtinute rezultate puternice care evidentiaza diferente substantiale fata de cele din cazul unu dimensional complex. Contributii importante in acest domeniu au fost aduse de J. Pfaltzgraff (1975), T. Poreda (1990), I. Graham, H. Hamada, G. Kohr, M. Kohr (2000-), F. Bracci (2008-), etc.

- [1]. I. Graham, H. Hamada, **G. Kohr**, M. Kohr, *Parametric representation and asymptotic starlikeness in  $\mathbf{C}^n$* , Proc. Amer. Math. Soc., 136(2008), 3963-3973.
- [2]. I. Graham, H. Hamada, **G. Kohr**, M. Kohr, *Asymptotically spirallike mappings in several complex variables*, J. Anal. Math., 105(2008), 267-302.
- [3]. I. Graham, H. Hamada, **G. Kohr**, M. Kohr, *Spirallike mappings and univalent subordination chains in  $\mathbf{C}^n$* , Annali della Scuola Normale Superiore di Pisa, Classe di Scienze, 7(2008), 717-740.
- [4]. P. Duren, I. Graham, H. Hamada, **G. Kohr**, *Solutions for the generalized Loewner differential equation in several complex variables*, Mathematische Annalen, to appear. DOI 10.1007/s00208-009-0429-2 (online in 2009).
- [5]. L. Arosio, F. Bracci, H. Hamada, **G. Kohr**, *An abstract approach to Loewner's chains*, submitted to Duke Math. Journal.

Rezultate relevante din teoria geometrica a functiilor de mai multe variabile complexe obtinute in aceste lucrari:

- In lucrarile [1], [2] si [3] sunt prezentate diverse aplicatii ale teoriei lanturilor Loewner pe bila unitate  $B^n$  in  $\mathbf{C}^n$ :
- (i) Introducerea notiunii de aplicatie care admite reprezentare parametrica pe  $B^n$  si interpretarea acestei notiuni prin prisma lanturilor Loewner (lucrarea [1]). In cazul unu-dimensional, este bine cunoscut faptul ca aceasta problema a fost abordata cu succes de C. Pommerenke, in 1975.
  - (ii) Caracterizarea notiunii de aplicatie care admite reprezentare parametrica generalizata printr-o conditie geometrica foarte naturala (asimptotic stelariitate, respectiv asimptotic spiraliitate) ([1], [2]). Astfel, se arata ca notiunile de A-reprezentare parametrica generalizata si asimptotic spiraliitate sunt echivalente.
  - (iii) Caracterizarea notiunii de aplicatie spiraliata prin intermediul lanturilor nenormate de subordonare (lucrarile [2] si [3]). Obtinerea unui raspuns partial la o problema deschisa abordata in lucrarea [1] referitoare la legatura intre notiunile de spiraliitate si reprezentare parametrica, respectiv asimptotic stelariitate. In acest sens, in lucrarea [2] s-a aratat ca daca A este un operator linear pe  $\mathbf{C}^n$  astfel incat  $A+A^*=2aI$ , unde  $a>0$ , atunci orice aplicatie spiraliata in raport cu operatorul A admite reprezentare parametrica.

Lucrarile [1]-[3] au recenzii pozitive in Mathematical Reviews si Zentralblatt für Mathematik. Lucrarea [3] a fost citata in

F. Bracci, M.D. Contreras, S. Diaz-Madriral, *Evolution families and the Loewner equation II. Complex hyperbolic manifolds*, **Mathematische Annalen**, 344(2009), 947-962.

-In lucrarea [4] este abordata o problema actuala din teoria lanturilor Loewner: determinarea formei generale a solutiilor olomorfe ale ecuatiei generalizate Loewner. In particular sunt obtinute solutiile univalente ale ecuatiei Loewner si este determinata legatura dintre acestea si solutia canonica. Sunt prezentate cazuri particulare pentru ecuatie generalizata a Loewner corespunzatoare lanturilor Loewner generate de aplicatii spiraliata, respectiv stelata, obtinute de T. Poreda (1999), respectiv M. Elin- S.Reich- D. Shoikhet (2000). Rezultatele obtinute in lucrarea [4] sunt generalizari la cazul n-dimensional complex ale unor rezultate cunoscute datorate lui J. Becker si C. Pommerenke (1973-1975).

-In lucrarea [5] se generalizeaza la cazul varietatilor hiperbolice complexe rezultate clasice dar si foarte recente din teoria lanturilor Loewner, obtinute in lucrarile prezentate mai sus. Metodele utilizate sunt deosebit de noi si deschid directii de cercetare in teoria geometrica a functiilor de mai multe variabile complexe, iar rezultatele obtinute in aceasta lucrare nu s-ar fi putut obtine fara abordarea unei constructii abstracte a notiunii de lant Loewner. Metodele folosite combina rezultate din teoria varietatilor diferenciale, analiza functionala, functii de mai multe variabile complexe, teoria iteratiilor (iterations theory), teoria semigrupurilor (semigroups theory). Una din problemele importante din teoria lanturilor Loewner in  $\mathbf{C}^n$  se refera la legatura dintre aplicatiile biolomorfe si cele care admit reprezentare parametrica (cele care se scufunda in lanturi Loewner) pe bila  $B^n$ . Aceasta problema abordata in 1975 de J. Pfaltzgraff a ramas deschisa pana la finalizarea lucrarii [5], in care se arata ca *orice aplicatie biolomorfa normata pe bila unitate  $B^n$  se poate scrie ca si compunerea dintr-o aplicatie biolomorfa pe o varietate complexa n-dimensională si o aplicatie care admite reprezentare parametrica.*

Din punctul meu de vedere, acesta este unul din cele mai importante rezultate din teoria lanturilor de subordonare diferentiale din cazul  $n$ -dimensional complex, obtinute in perioada 2005-. Din acest motiv, am inclus si articolul [5] in lista precedenta, chiar daca a fost trimis spre publicare doar in februarie 2010, dar elaborarea acestuia s-a facut pe parcursul anilor 2008-2009.

Data:

15 Martie 2010

Semnătura:

Prof. Dr. Gabriela Kohr

**Certific validitatea datelor prezentate**

Sef de catedră,

Conf. Dr. Simion Breaz