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Special issue dedicated to Professor Hà Huy Khoái on the occasion of his 65th birthday

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Preface

We are very pleased to dedicate this special volume of the *Vietnam Journal of Mathematics* to Professor Dr. Hà Huy Khoái on the occasion of his sixty-fifth birthday. Khoái was born on the twenty-fourth of November 1946 in Ha Tinh, Vietnam.

During the challenging time of the American war, Khoái graduated from high school in Vinh and completed his undergraduate studies in mathematics at Hanoi University. During this difficult but exciting time for Vietnamese mathematics, Khoái learned many interesting branches of mathematics under the supervision of distinguished Vietnamese mathematicians such as Lê Văn Thiêm and Hoàng Tụy. In particular, Khoái began his study of Nevanlinna's theory of value distribution, an area in which Thiêm made foundational contributions, and a subject Khoái and his students have advanced over the last five decades. During the time of Khoái's undergraduate studies, faculty and students were frequently evacuated to the jungle to escape the American bombing of Hanoi. Despite these circumstances, several notable western mathematicians visited the Vietnamese mathematical community. In fact, in November of 1967, the year of Khoái's graduation from Hanoi University, Alexander Grothendieck visited Vietnam lecturing four hours per morning on abstract algebraic geometry to the Hanoi mathematicians and students and answering questions and holding informal discussions in the afternoons; a few of Grothendieck's lectures were given in Hanoi, but most were delivered deep in the jungle after an evacuation of Hanoi was ordered during his visit. We are pleased that among the contributers to this volume is Neal Koblitz, one of the early American supporters of the contemporary Vietnamese mathematical community.

The next phase of Khoái's mathematical career was his graduate study at the Steklov Institute of Mathematics, where Khoái studied under Yuri Ivanovich Manin. Khoái has fond memories of his fellow students from his time at the Steklov Institute of Mathematics, and we are especially pleased that one of these colleagues and close friends, Alexei Panchishkin, is a contributer to this volume. Khoái completed his Ph.D. dissertation, "p-Adic Interpolation and the Mellin-Mazur Transform" in 1978 and later earned his Doctor of Science in 1984.

In the late 1980's, partly while visiting prestigious mathematical institutions in Europe, such as the Max Planck Institute for Mathematics in Bonn and Institut des Hautes Etudes Scientifiques (IHES, Bures-sur-Yvette), Khoái combined the p-adic theory he learned while completing his Ph.D. with his earlier interest in value distribution theory to lay down a program to develop the value distribution theory of p-adic meromorphic functions in one and several variables. Khoái's *Duke* paper and a couple of his Max Planck preprints were among the first research-level papers that Serge Lang gave to one of us (Cherry) to read as a young Ph.D. student. Cherry was honored to meet Khoái in person for the first time in Hanoi in 2001, and he is similarly honored today to be able to assist in putting together this volume. This program initiated by Khoái (and also developed with My Vinh Quang) gained attention quickly, and three related Ph.D. dissertations, two in North America and one in Africa, soon followed. The value distribution theory of p-adic meromorphic functions is studied today in the United States, in France, in China and Taiwan, in Japan, in Chile, and of course in Vietnam.

Khoái remains active in mathematical life and his legacy is also continued by the work of his students. Khoái has had 11 Ph.D. students. Khoái is known to introduce his students to difficult open problems in mathematics and to encourage them to develop independent ideas toward their solution. An is proud to represent the gratefulness and admiration of Khoái's students in the production of this volume.

Khoái has devoted considerable energy over the course of his career to the promotion and advancement of mathematics in Vietnam. He has served as Vice President of the Vietnam Mathematical Society and he has served as the director of the Institute of Mathematics. Khoái has been a member of The State Council for professor title promotion, Chairman of Mathematics Section. Khoái also takes great pleasure in working with bright young Vietnamese mathematicians and regularly participates in coaching the Vietnamese team for the Math Olympiad. Khoái's contributions to mathematics have been recognized internationally: Khoái was inducted into the Third World Academy of Sciences, and he has been invited for extended stays at prestigious research institutions such as the Max Planck Institute for Mathematics, IHES, and ICTP. In the tradition of his family, Khoái is a gifted writer. He has written numerous mathematics texts, and he regularly contributes journalistic articles on mathematics and science, including over 40 articles in *Tia Sang*.

We were delighted to be able to assemble this volume from the contributions of such an esteemed group of international mathematicians who have interacted with Khoái at various different stages of his career. All the manuscripts in this volume went through a selective refereeing process, and we think they make a fine tribute to Khoái.

Happy Birthday Professor Hà Huy Khoái!

Tạ Thị Hoài An
William Cherry

Hà Huy Khoái's selected publications

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2. Sur une conjecture de Mazur et Swinnerton-Dyer, *C. R. A. Sc. Paris*, **289**(1979), 483-485.
3. On p-adic interpolation, *Mat. Zametki*, **26** (1979), no.1 (in russian), *AMS translation Math. Notes*, **26** (1980), 541-549.
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5. p-adic Interpolation and the Mellin-Mazur transform, *Acta Math. Vietnam.*, **5** (1980), no.1, 77-99.
6. On p-adic meromorphic functions, *Duke Math. J.*, **50** (1983), 695-711.
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8. p-adic Nevanlinna Theory, *Lecture Notes in Math.*, **1351**, 138-152 (with My Vinh Quang).
9. La hauteur des fonctions holomorphes p-adiques de plusieurs variables, *C. R. A. Sc. Paris*, **312** (1991), 751-754.
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11. Sur les series L associees aux formes modulaires, *Bull. Soc. math. France*, **120** (1992), 1-13.
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17. Value Distribution for p-adic hypersurfaces, *Taiwanese J. Math.*, **7** (2003), no.1, 51-67 (with Vu Hoai An).
18. On the functional equation $P(f) = Q(g)$, *Adv. Complex Anal. Appl.*, **3**, Kluwer Acad. Publ., Boston, MA, 2004, 201-207 (with C.-C., Yang).
19. Some remarks on the genericity of unique range sets for meromorphic functions, *Sci. China Ser. A*, **48**(2005), 262-267.
20. p-Adic Fatou-Bieberbach mappings, *Inter. J. Math*, **16** (2005), No.3.
21. Unique range sets and decomposition of meromorphic functions, *Contemporary Math.*, **475** (2008), 95-105.
22. Value distribution problem for p-adic meromorphic functions and their derivatives, *Ann. Fac. Sci.Toulouse.*, **XX** (2011), 135-149 (with Vu Hoai An).