RESEARCH SCHOLAR DETAILS

Name of Scholar	ANUJA PRAJAPATI
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Registration Number	207/2016/Math
Name of the Department & Address	Department of Mathematics, Sambalpur University, Jyotivihar, Burla
Name of the Supervisor and Correspondence address	**Dr. PriyabratGochhayat**, Dept. of Mathematics, Sambalpur University
Details of Funding agency/scheme	DST-INSPIRE Fellow (JRF)
Title of the research work	SOME ASPECTS OF UNIVALENT FUNCTIONS IN THE CONTEXT OF GEOMETRIC FUNCTION THEORY
Abstract of research work	The concept of univalent as well as multivalent functions play significant role in geometric functions theory and have new perspective on their own merits to stand as a specialization as well as to pursue the research work on this direction. The origin of the study trace back to a paper of Koebe (1907) on uniformization of algebraic curves. In that paper Koebe proved that there is a constant k such that the boundary of the map of unit disc by any function in S (the class of univalent functions) is always at a distance not less than k from origin. Bieberbach rediscovered that value of the constant k = 1/4 and also proved that $\|a_2\| \leq 2$ for every f∈S. The conjecture determined the course of research in univalent functions theory nearly seventy year and was proved by de Branges in 1985. During the period when the Bieberbach conjecture remained unsolved, it was verified

	for several subfamilies of S. These sub-families have many interesting properties which make their study important on their own right. Many new techniques have been developed and introduced to study univalent and multivalent functions in broader perspective. The main objective of the proposed research will be a contribution to geometric functions theory, more precisely to investigate the following aspects: 1. Applications of differential subordination techniques in the context of geometric functions theory. 2. Class preserving properties of some subclasses of univalent and multivalent functions. The notion of differential subordination for analytic functions generalizes the idea of differential inequality involving real functions. Using the concept of differential subordination an attempt shall be made to study the basic properties of certain subclasses of analytic univalent/multivalent functions. Using concepts of subordination which is well known in literature, new classes of analytic functions shall be defined. Basic properties of these classes shall be studied. The properties to be investigated are: closure, inclusion, Hardamard product, growth, radius of convexity, order of starlikeness, integral transform, class preserving operators etc.
Progress of the research work	We are looking on the geometric properties of the analytic univalent function in the geometric function theory like inclusion, subordination, super ordination, radius of univalence. Especially we are concentrated some applications of the special functions in geometric function theory.
Journal Publication	
Conference attended	**2016** ❖ Workshop attended at MNIT sponsored twodays' workshopon LATEX FOR RESEARCH organized by Dept. of Mathematics, MNIT, Jaipur, Rajasthan

	during 23rd-24th july,2016. ❖ Workshop attended TEQIP Sponsored Two Days "International Workshop on Recent Trends in Mathematics and Applications" (IWRTMA - 2016) organized by Dept. of Mathematics, VSSUT, Burla, Odisha, INDIA during 1st and 2nd August, 2016. ❖ Attended training program on ATM school (AFS-I) at HRI, Allahabad during 5th Dec 2016 to 31st Dec2016. **2017** ❖ Attended workshop on "Solid and Hazardous Waste Management " organized by P. G. Department of Environmental sciences, Sambalpur university, Jyotivihar, Burla, Odisha during march 23rd , 2017. ❖ Attended training program on ATM school (AFS-II) at BhaskaracharyaPratishthana, Pune during 8thMay 2017 to 3rd June 2017. ❖ Visiting library of IMA,Bhubaneswar from 13th Nov to 25th Nov 2017 to enhance my research ability and collect some literaturereview. **2018** ❖ Attended and presented a paper "Coeffcient estimates of certain subclasses of analytic functions associated with Hohlov operator" in the National seminar on computational and mathematical engineering with 45th Annual conference of Odisha Mathematical society organized by Parala Maharaja engineering college, Berhampur , Odisha, held on 3-4 Feb 2018.
Awards	I am availing DST-INSPIRE Fellowship from 2016.