



THE UNIVERSITY OF TEXAS
AT DALLAS

Dr. Yi Zhang, PhD

February 15, 2019

Professor and Head Gemai Chen
The Department of Mathematical Sciences
Xi'an Jiaotong-Liverpool University
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Dear Professor and Head Gemai Chen,

I am writing to apply for a lecturer position posted in the website of Xi'an Jiaotong-Liverpool University (XJTLU). As requested, I am enclosing a cover letter, my current curriculum vitae, research plan, teaching philosophy and a list of reference providers.

Previously, I was a PhD student in a joint PhD program between China and Austria under the supervision of Prof. Ziming Li and Prof. Manuel Kauers. I got my PhD degree from University of Chinese Academy of Sciences on July, 2016. Afterwards, I got my PhD degree from Johannes Kepler University Linz on February, 2017. Then I worked as a postdoc researcher at RICAM, Austrian Academy of Sciences with Prof. Christoph Koutschan until August, 2018. Currently, I am working as a research associate and also a lecturer at Department of Mathematical Sciences, The University of Texas at Dallas with Prof. Carlos E. Arreche.

The opportunity posted in the website of XJTLU is quite interesting for me, and I believe that my education, research and teaching experience in mathematics will make me a competitive candidate for this position. For instance, I got a Distinguished Student Author Award of ISSAC'16 issued by SIGSAM, ACM for my work on "Contraction of Ore Ideals with Applications".

My main research interest is computer algebra (theory, algorithms, applications, and implementations) or symbolic computation, which is considered a subfield of scientific computing. More specifically, I use techniques (Gröbner bases, resultant theory, *etc.*) of computer algebra to study algebraic problems (desingularization, symbolic solutions, Galois groups, *etc.*) of differential and difference equations. My research work also has various applications in combinatorics, knot theory, statistics and cryptography. For details, see my curriculum vitae and research plan.

Thank you for your time and consideration. I look forward to speaking with you about this employment opportunity.

Sincerely,

Dr. Yi Zhang, PhD