

I, Zhenfei Zhang, 187 Ballardvale st. Suite A202, Wilmington MA 01887, U.S., do hereby declare that the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as *pqNTRUSign*, is my own original work, or if submitted jointly with others, is the original work of the joint submitters.

I further declare that:

- to the best of my knowledge, the practice of the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as *pqNTRUSign*, may be covered by the following U.S. and/or foreign patents:
 - Ring-based digital signature and authentication method and apparatus, U.S. Patent publication No.: WO2002009348 A3
 - Digital signature and authentication method and apparatus, U.S. Patent publication number: US7913088 B2
- I do hereby declare that, to the best of my knowledge, the following pending U.S. and/or foreign patent applications may cover the practice of my submitted cryptosystem, reference implementation or optimized implementations:
 - Digital signature method, U.S. Patent Application No. 20150229478

I do hereby acknowledge and agree that my submitted cryptosystem will be provided to the public for review and will be evaluated by NIST, and that it might not be selected for standardization by NIST. I further acknowledge that I will not receive financial or other compensation from the U.S. Government for my submission. I certify that, to the best of my knowledge, I have fully disclosed all patents and patent applications which may cover my cryptosystem, reference implementation or optimized implementations. I also acknowledge and agree that the U.S. Government may, during the public review and the evaluation process, and, if my submitted cryptosystem is selected for standardization, during the lifetime of the standard, modify my submitted cryptosystem's specifications (e.g., to protect against a newly discovered vulnerability).

I acknowledge that NIST will announce any selected cryptosystem(s) and proceed to publish the draft standards for public comment I do hereby agree to provide the statements required by Sections 2.D.2 and 2.D.3, below, for any patent or patent application identified to cover the practice of my cryptosystem, reference implementation or optimized implementations and the right to use such implementations for the purposes of the public review and evaluation process.

I acknowledge that, during the post-quantum algorithm evaluation process, NIST may remove my cryptosystem from consideration for standardization. If my cryptosystem (or the derived cryptosystem) is removed from consideration for standardization or withdrawn from consideration by all submitter(s) and owner(s), I understand that rights granted and assurances made under Sections 2.D.1, 2.D.2 and 2.D.3, including use rights of the reference and optimized implementations, may be withdrawn by the submitter(s) and owner(s), as appropriate.

Signed: Zhenfei Zhang
Title: Senior Research Scientist
Date: 11/29/17

A handwritten signature in black ink, appearing to be 'Zhenfei Zhang', written in a cursive style.

Place: 187 Ballardvale st. Suite A202, Wilmington MA 01887, U.S.