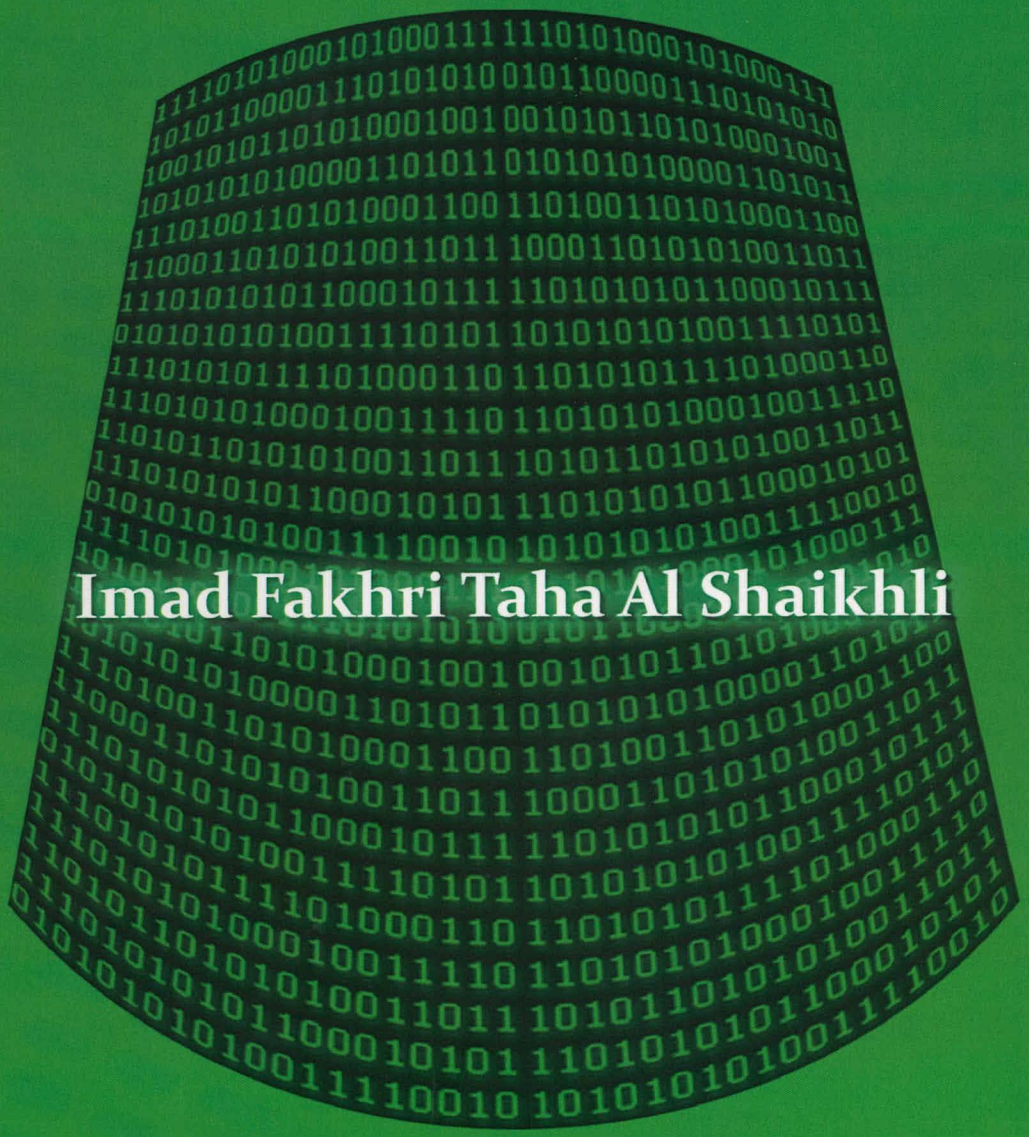
# Cryptography

## Past, Present and Future

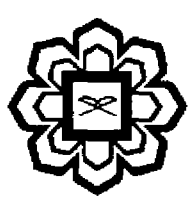


Imad Fakhri Taha Al Shaikhli

IIUM PRESS
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

# Cryptography: Past, Present and Future

Imad Fakhri Taha Al Shaikhli



IIUM Press

Published by:

IIUM Press

International Islamic University Malaysia

First Edition, 2011



Perpustakaan Negara Malaysia Cataloguing-in-Publication Data

Imad Fakhri Taha Al-Shaikhli
Cryptography: Past, Present and Future
Imad Fakhri Taha Al-Shaikhli

ISBN: 978-967-418-091-1

Member of Majlis Penerbitan Ilmiah Malaysia – MAPIM
(Malaysian Scholarly Publishing Council)

Printed by :
**IIUM PRINTING SDN. BHD.**
No. 1, Jalan Industri Batu Caves 1/3
Taman Perindustrian Batu Caves
Batu Caves Centre Point
68100 Batu Caves
Selangor Darul Ehsan

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**ABSTRACT**

In this article we will talk about the background of Rivest-Shamir-Adleman (RSA) cryptanalysis. Also we will introduce into small encryption exponent *e* for RSA, Small decryption exponent *d* for RSA. Also, we will describe common modulus attack and message concealing.


## BACKGROUND

While cryptography is the science concerned with the design of ciphers, cryptanalysis is the related study of breaking ciphers. Cryptography and cryptanalysis are somehow complimentary sciences: development in one is usually followed by further development in the other. Below we give a brief description of the main methods used to attack the RSA cryptosystem.

Two kinds of these attacks are usually distinguished.

- In an indifferent chosen-ciphertext attack, the adversary is provided with decryptions of any ciphertexts of its choice, but these ciphertexts must be chosen prior to receiving the (target) ciphertext c it actually wishes to decrypt.
- In an adaptive chosen-ciphertext attack, the adversary may use (or have access to)A's decryption machine (but not the private key itself) even after seeing the target ciphertext