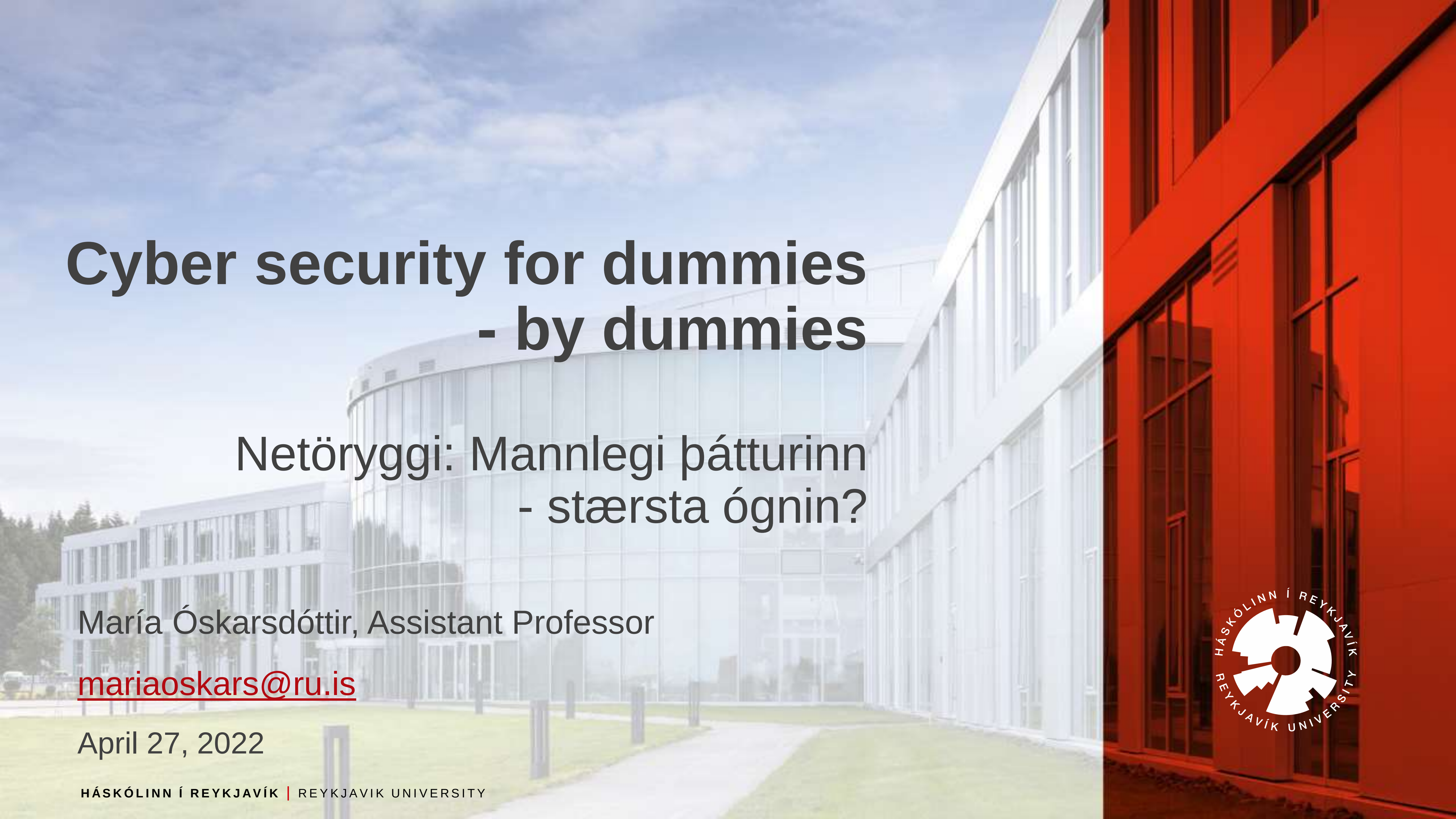


Cyber security for dummies - by dummies

Netöryggi: Mannlegi þátturinn - stærsta ógnin?

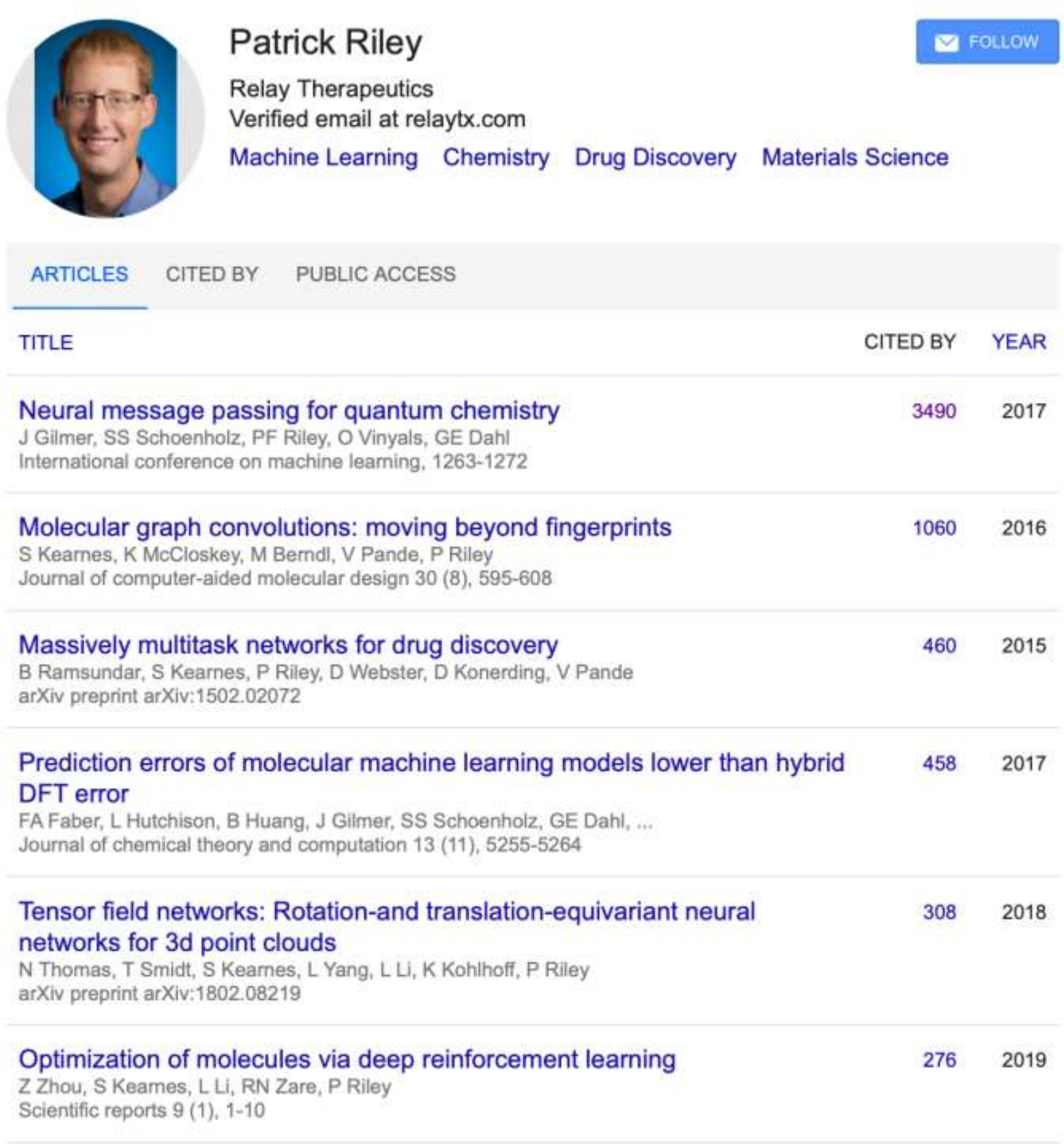
María Óskarsdóttir, Assistant Professor

mariaoskars@ru.is

April 27, 2022

Sleep Revolution

To transform the current diagnostic methods for sleep disordered breathing

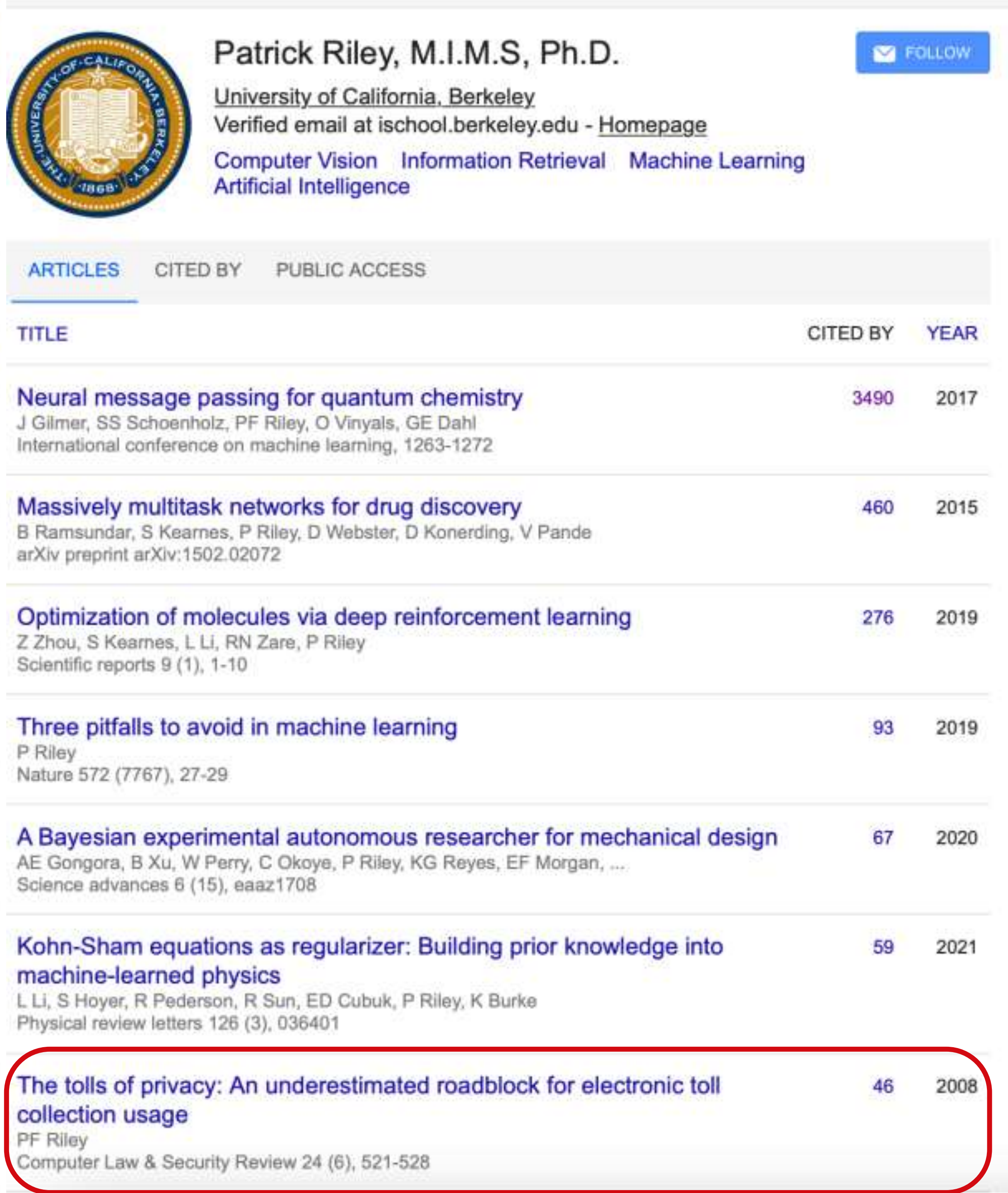


Patrick Riley

Relay Therapeutics
Verified email at relaytx.com

Machine Learning Chemistry Drug Discovery Materials Science

TITLE	CITED BY	YEAR
Neural message passing for quantum chemistry J Gilmer, SS Schoenholz, PF Riley, O Vinyals, GE Dahl International conference on machine learning, 1263-1272	3490	2017
Molecular graph convolutions: moving beyond fingerprints S Kearnes, K McCloskey, M Berndl, V Pande, P Riley Journal of computer-aided molecular design 30 (8), 595-608	1060	2016
Massively multitask networks for drug discovery B Ramsundar, S Kearnes, P Riley, D Webster, D Konerding, V Pande arXiv preprint arXiv:1502.02072	460	2015
Prediction errors of molecular machine learning models lower than hybrid DFT error FA Faber, L Hutchison, B Huang, J Gilmer, SS Schoenholz, GE Dahl, ... Journal of chemical theory and computation 13 (11), 5255-5264	458	2017
Tensor field networks: Rotation-and translation-equivariant neural networks for 3d point clouds N Thomas, T Smidt, S Kearnes, L Yang, L Li, K Kohlhoff, P Riley arXiv preprint arXiv:1802.08219	308	2018
Optimization of molecules via deep reinforcement learning Z Zhou, S Kearnes, L Li, RN Zare, P Riley Scientific reports 9 (1), 1-10	276	2019



Patrick Riley, M.I.M.S, Ph.D.

University of California, Berkeley
Verified email at ischool.berkeley.edu - Homepage

Computer Vision Information Retrieval Machine Learning
Artificial Intelligence

TITLE	CITED BY	YEAR
Neural message passing for quantum chemistry J Gilmer, SS Schoenholz, PF Riley, O Vinyals, GE Dahl International conference on machine learning, 1263-1272	3490	2017
Massively multitask networks for drug discovery B Ramsundar, S Kearnes, P Riley, D Webster, D Konerding, V Pande arXiv preprint arXiv:1502.02072	460	2015
Optimization of molecules via deep reinforcement learning Z Zhou, S Kearnes, L Li, RN Zare, P Riley Scientific reports 9 (1), 1-10	276	2019
Three pitfalls to avoid in machine learning P Riley Nature 572 (7767), 27-29	93	2019
A Bayesian experimental autonomous researcher for mechanical design AE Gongora, B Xu, W Perry, C Okoye, P Riley, KG Reyes, EF Morgan, ... Science advances 6 (15), eaaz1708	67	2020
Kohn-Sham equations as regularizer: Building prior knowledge into machine-learned physics L Li, S Hoyer, R Pederson, R Sun, ED Cubuk, P Riley, K Burke Physical review letters 126 (3), 036401	59	2021
The tolls of privacy: An underestimated roadblock for electronic toll collection usage PF Riley Computer Law & Security Review 24 (6), 521-528	46	2008

Cyber security

Means different things to different people in different situations

- Individuals, Small business owners, Firms conducting online business, Shared service providers, Government, Researchers, Academia

Important because it prevents hackers from breaking into systems and stealing data and money

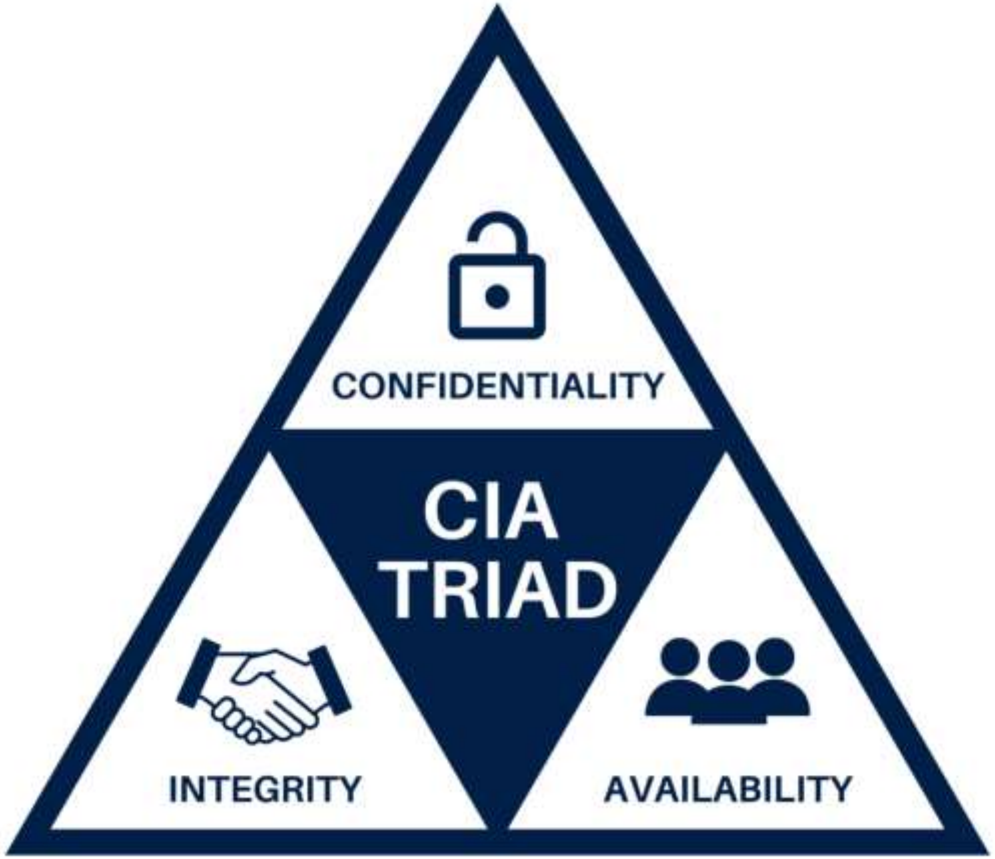
Plays a vital role in keeping the modern home, business, or even world running

What cybersecurity means from a human perspective

- Privacy, Financial, Professional, Business and Personal risks

The goal of cybersecurity: The CIA triad

- **Confidentiality**: ensure that information isn’t disclosed or made available to unauthorized entities
- **Integrity**: ensure that data is both accurate and complete
- **Availability**: ensure that information, the systems used to store and process it, the communication mechanisms used to access and relay it, and all associated security controls function correctly



Cyber attacks

Social engineering attacks

Based on basic concepts that people seeking to influence others often leverage

- Social proof
- Reciprocity
- Authority
- Likeability
- Consistency and commitment
- Scarcity

Important to train end users to recognize social engineering attacks

Phishing

Spear phishing

CEO fraud

Smishing

Vishing

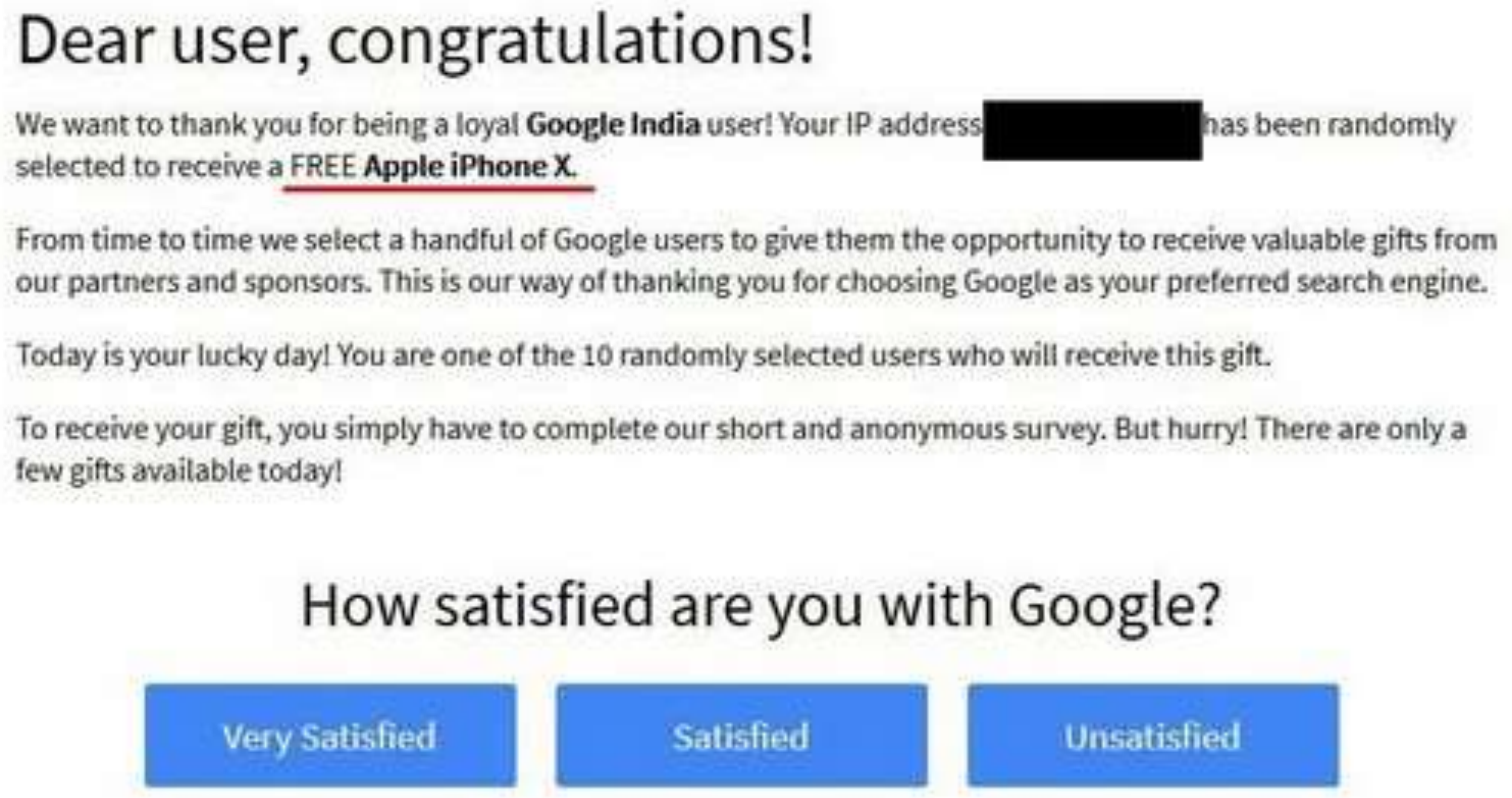
Whaling

Tempering

Baiting

Quid pro quo

Social media impersonation



Dear user, congratulations!

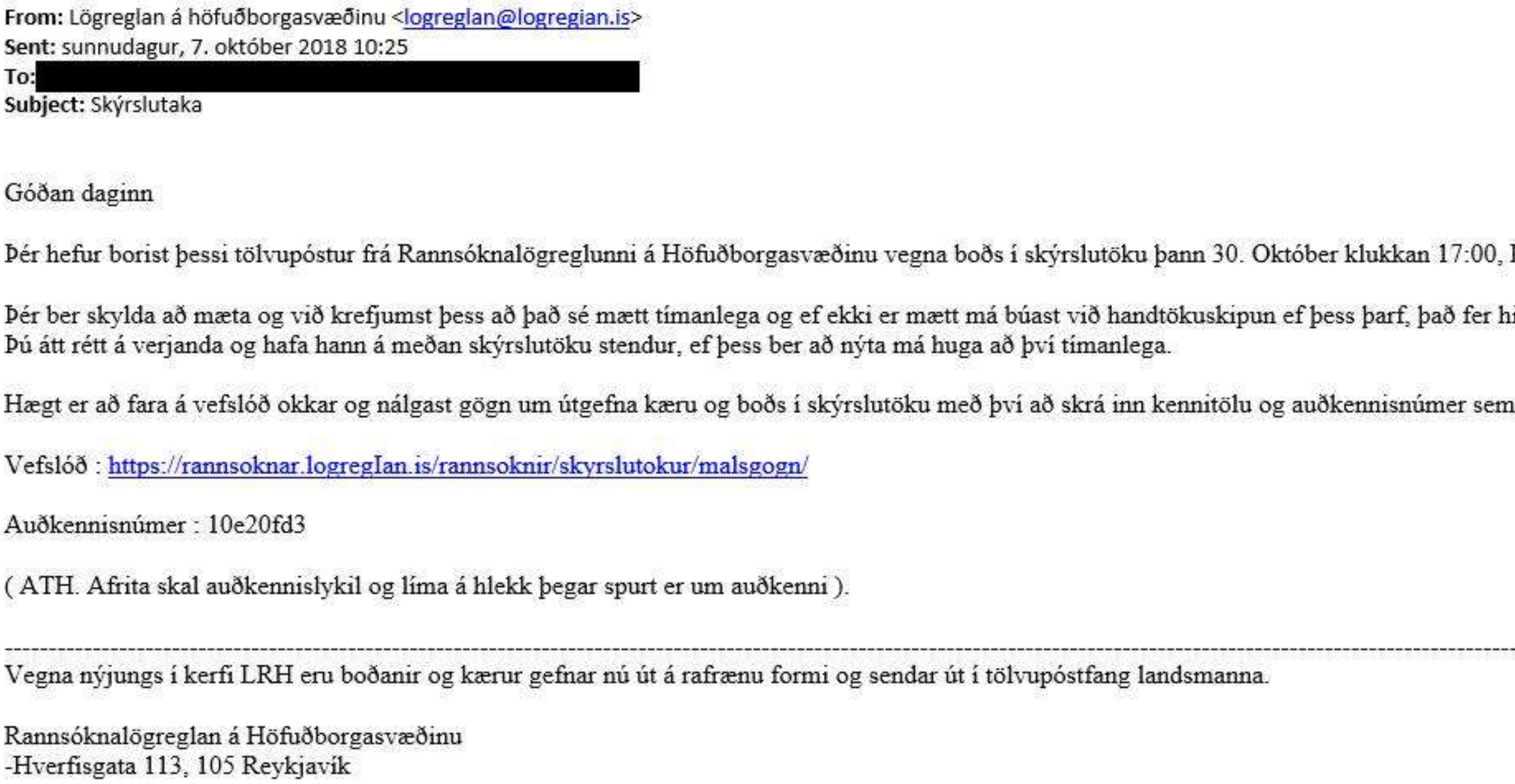
We want to thank you for being a loyal **Google India** user! Your IP address [redacted] has been randomly selected to receive a FREE **Apple iPhone X**.

From time to time we select a handful of Google users to give them the opportunity to receive valuable gifts from our partners and sponsors. This is our way of thanking you for choosing Google as your preferred search engine.

Today is your lucky day! You are one of the 10 randomly selected users who will receive this gift.

To receive your gift, you simply have to complete our short and anonymous survey. But hurry! There are only a few gifts available today!

How satisfied are you with Google?



From: Lögreglan á höfuðborgasvæðinu <logreglan@logregian.is>
Sent: sunnudagur, 7. október 2018 10:25
To: [redacted]
Subject: Skýrslutaka

Góðan daginn

Þér hefur borist þessi tölvupóstur frá Rannsóknalögreglunni á Höfuðborgasvæðinu vegna boðs í skýrslutöku þann 30. Október klukkan 17:00, I

Þér ber skylda að mæta og við krefjumst þess að það sé mætt tímanlega og ef ekki er mætt má búast við handtökuskipun ef þess þarf, það fer hi
Þú átt rétt á verjanda og hafa hann á meðan skýrslutöku stendur, ef þess ber að nýta má huga að því tímanlega.

Hægt er að fara á vefslóð okkar og nálgast gögn um útgefna kæru og boðs í skýrslutöku með því að skrá inn kennitölu og auðkennisnúmer sem

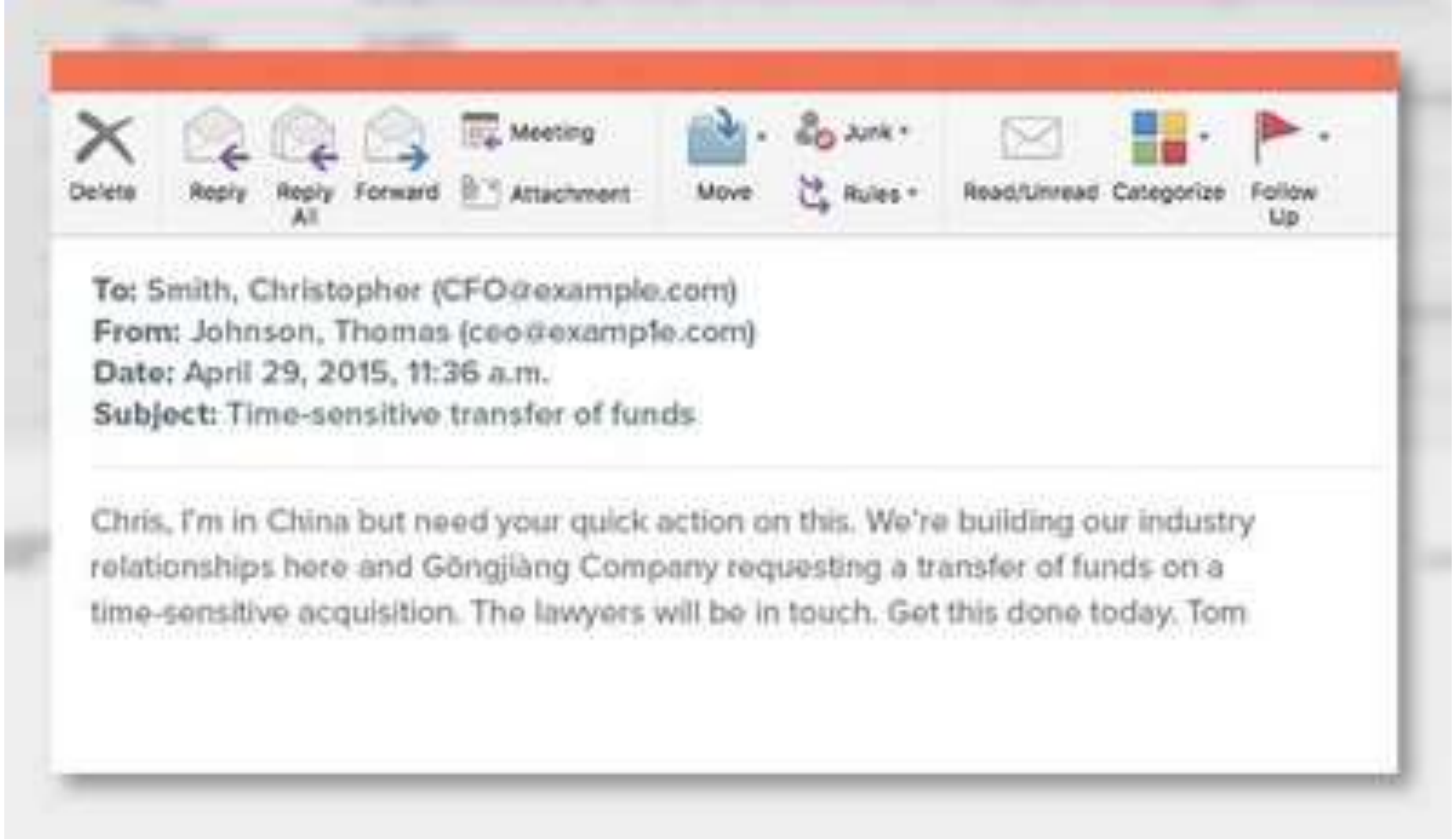
Vefslóð : https://rannsoknar.logreglan.is/rannsoknir/skyrslutokur/malsgogn/

Auðkennisnúmer : 10e20fd3

(ATH. Afrita skal auðkennislykil og líma á hlekk þegar spurt er um auðkenni).

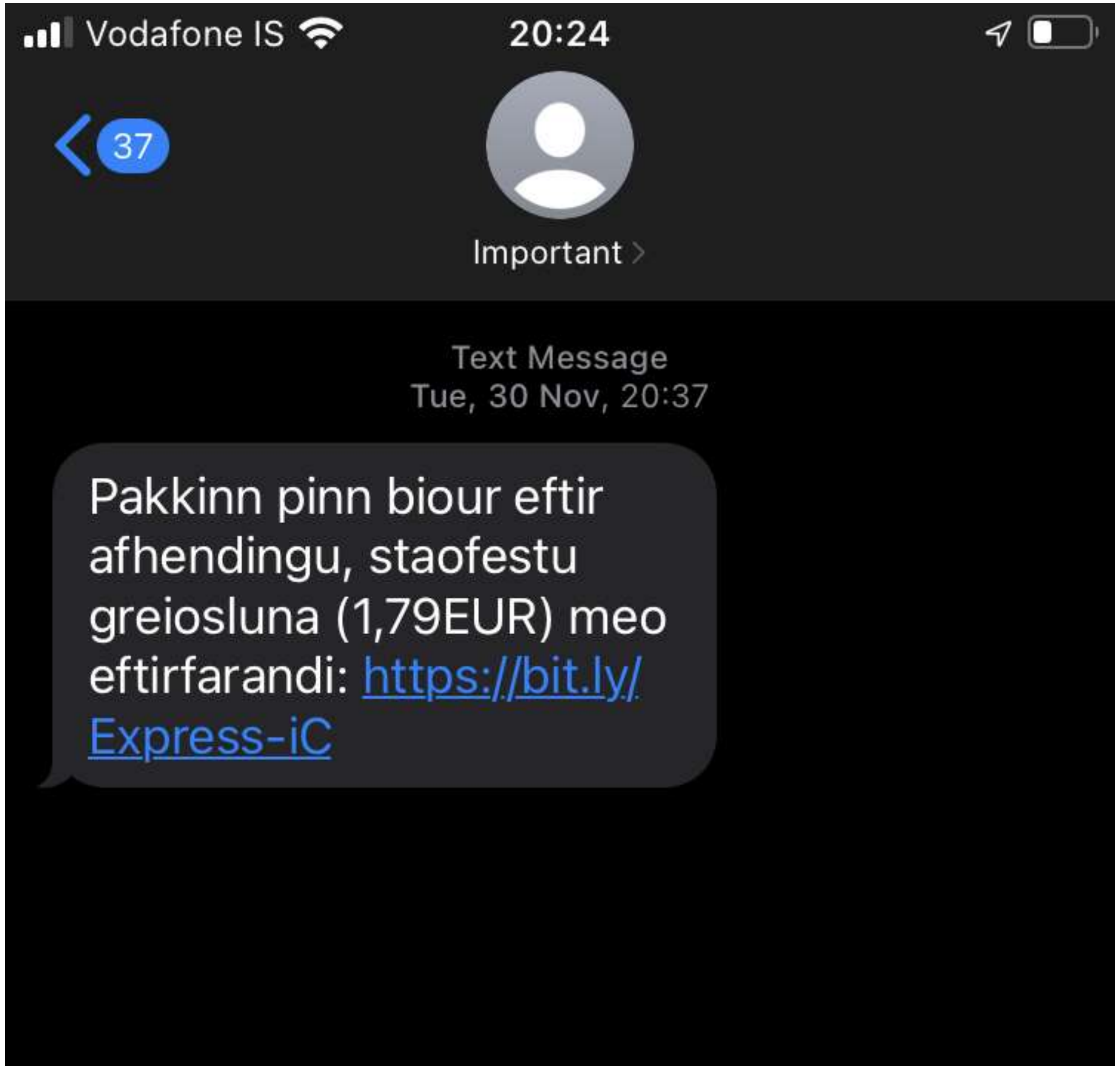
Vegna nýjungs í kerfi LRH eru boðanir og kærur gefnar nú út á rafrænu formi og sendar út í tölvupóstfang landsmanna.

Rannsóknalögreglan á Höfuðborgasvæðinu
-Hverfisgata 113, 105 Reykjavík



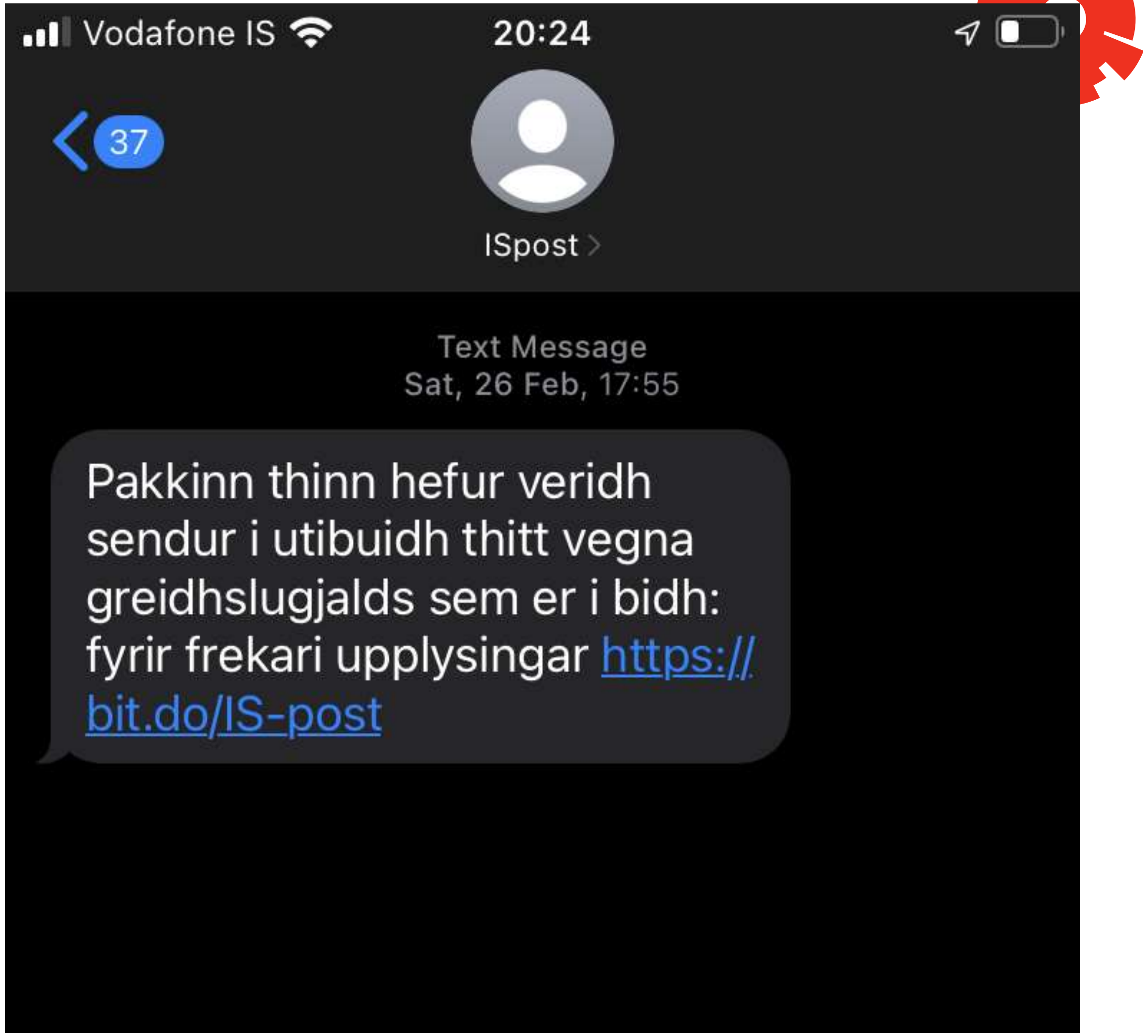
To: Smith, Christopher (CFO@example.com)
From: Johnson, Thomas (ceo@examp1e.com)
Date: April 29, 2015, 11:36 a.m.
Subject: Time-sensitive transfer of funds

Chris, I'm in China but need your quick action on this. We're building our industry relationships here and Gōngjiàng Company requesting a transfer of funds on a time-sensitive acquisition. The lawyers will be in touch. Get this done today. Tom



Text Message
Tue, 30 Nov, 20:37

Pakkinn pinn biour eftir afhendingu, staofestu greiosluna (1,79EUR) meo eftirfarandi: https://bit.ly/Express-iC



Text Message
Sat, 26 Feb, 17:55

Pakkinn thinn hefur veridh sendur i utibuidh thitt vegna greidhslugjalds sem er i bidh: fyrir frekari upplysingar https://bit.do/IS-post

Common cyber scams targeting online shoppers

- “There are problems with your order”
  - Contain a link to a bogus website that collects login information
- “There are problems with your payment method”
  - Collects t redentials
- Delivery-se
  - Deliver m
- Bogus deal emails, social media posts, or web links
  - Collect payments and never ship the goods
- Fake invoice emails:
  - Capture information, install malware -> attachments contain malware

Do NOT click links in the message or open associated attachment!!!

Improving your personal security

Cyber-protect yourself and your family on the internet

Protect your devices

- Run security software on every device you use to access sensitive information
- Configure your devices to auto-lock, and to require a strong password to unlock
- Don’t leave your devices in insecure locations
- Install software only from reputable sources

Protect data

- Encrypt all sensitive data and back up often

Cyber-protect yourself and your family on the internet

Use safe connections

- Never access sensitive information over free public Wi-Fi
- The connection provided by your cellular service is likely far more secure

Use proper authentication and passwords

- Every person accessing an important system should have own login credentials
- Do not share passwords for online banking, email, social media, and so on with your children or significant other -> Get everyone their own login
- Make sure you use strong, unique passwords for your most sensitive systems

Cyber-protect yourself and your family on the internet

Share wisely

- Do not overshare information on social media or using any other platforms
- Oversharing exposes yourself and your loved ones to increased risks of being targeted

General privacy

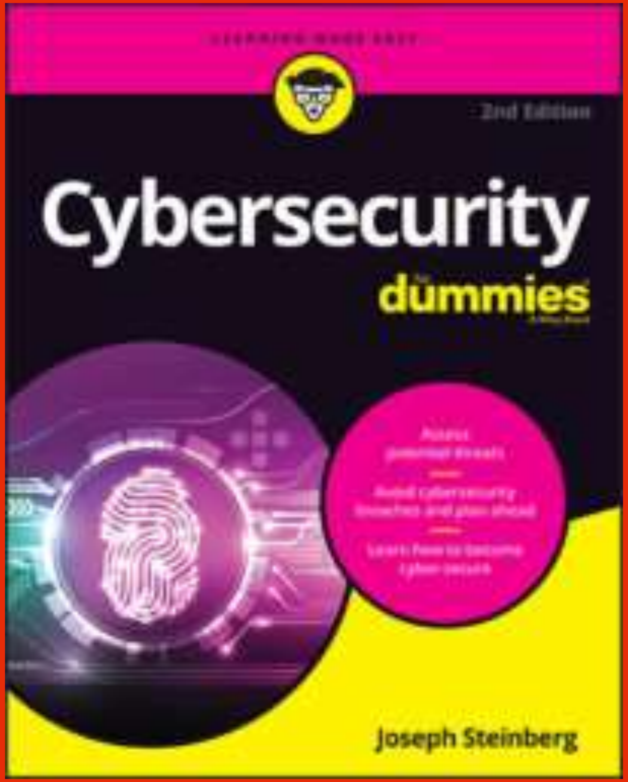
- Change social media privacy settings, do not rely on them
- Keep unencrypted private data out of the cloud - Store highly sensitive material offline
- Use end-to-end encryption for online chat

Cyber-protect yourself and your family on the internet

- Do all members of you family know what their responsibilities are regarding cybersecurity?
- Are all family members aware of risks (e.g. phishing emails)?
- Are family members using secure passwords?
- Does everyone in the family know what should not be shared online (e.g. social media, email attachments)?

Avoid common cybersecurity mistakes

- Thinking it cannot happen to you
- Using weak passwords
- Not using multifactor authentication when it is available
- Not running proper security software
- Not keeping software up to date
- Failing to exercise good judgment
- Not learning the basics



Do not rely solely on digital security!