



Presentation for:



Neal Harris, Converus  
*May 30, 2017*



# Dr. John Kircher:

- Ph.D. in psychology - University of Utah
- Consultant and Researcher for...
  - CIA, National Institute of Justice, Secret Service
  - National Science Foundation, Dept. of Defense
  - National Institute of Mental Health
  - Multiple foreign governments
  - National Center for Credibility Assessment
  - Dept. of Homeland Security and Royal Canadian Mounted Police.
- 90 publications on psychophysiological deception detection
- Co-developed the algorithms for first computerized polygraph in 1991.
- Recognized as one of the leading scientists in deception detection.





# Science Team



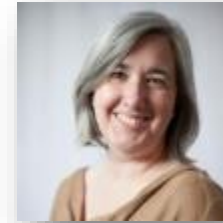
Dr. John Kircher



Dr. David Raskin



Dr. Dan Woltz

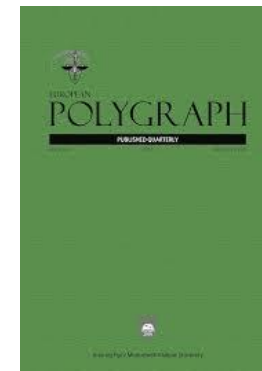


Dr. Anne Cook



Dr. Doug Hacker

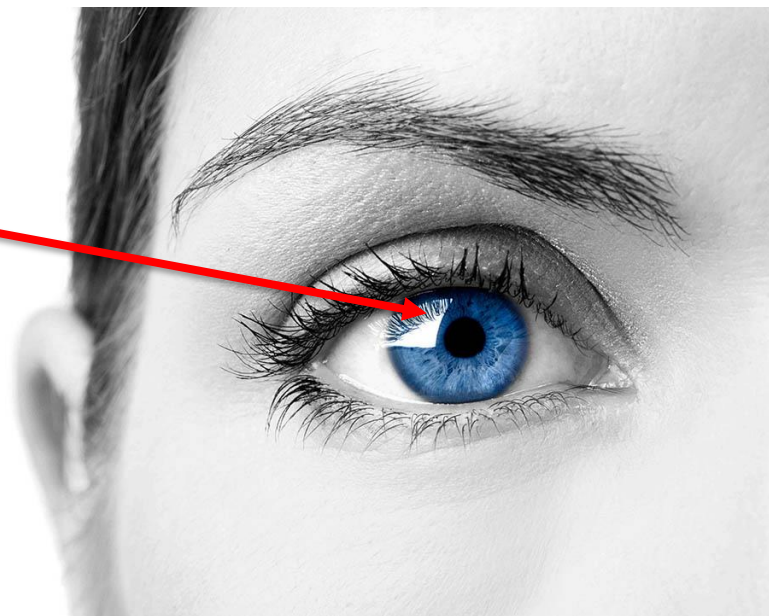
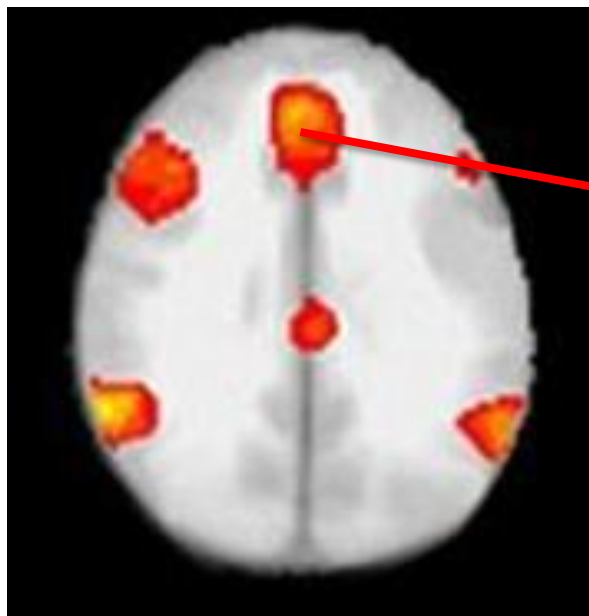
- World-renowned, widely published experts in deception detection
- Consultants on deception for US and world governments
- \$15+ million invested in research. \$5+ million invested in product





# The Breakthrough Discovery

- Cognitive load causes small (around  $1/10^{\text{th}}$  of a millimeter) of involuntary pupil dilation
- Dilation persists for 4-6 seconds after the lie is told

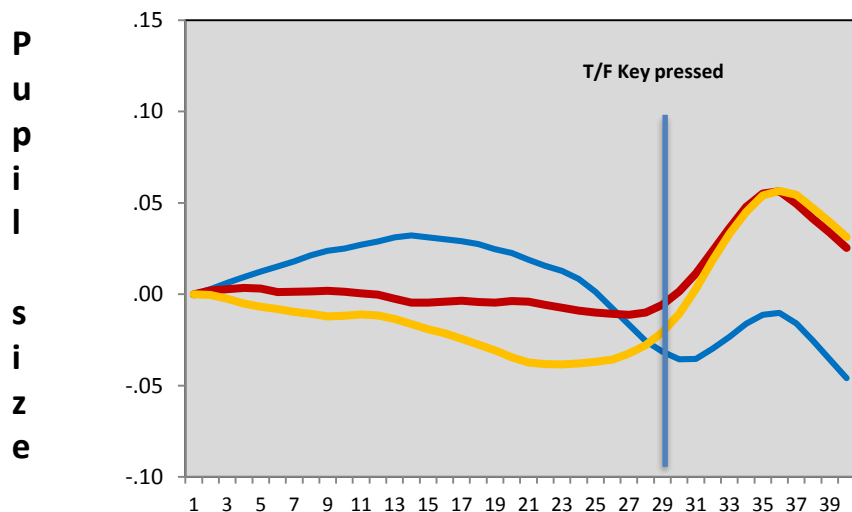




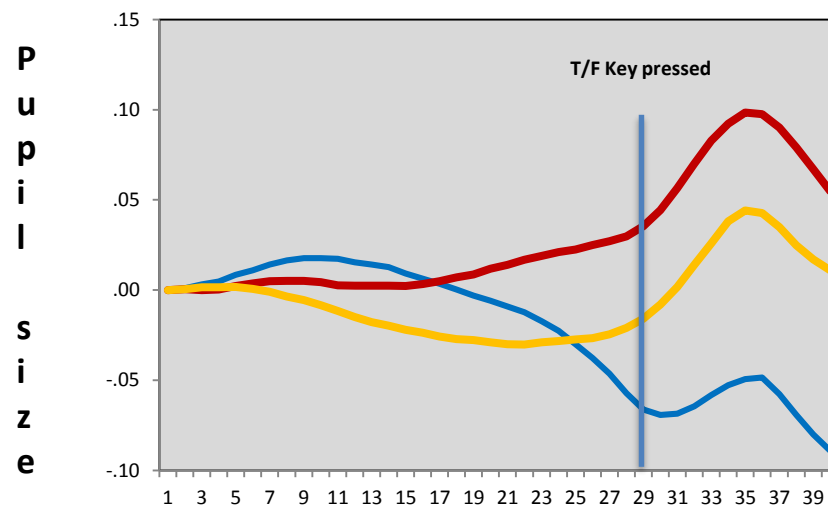
# Pupil Diameter Response

N= 200 subjects

### Innocent Subjects



### Guilty Subjects



Time

Time



Relevant Questions (Illicit Drug Use, Assaults, Sex crimes, etc.)



Probable Truth Questions (Terrorism, Cybercrime, Date rape drugs, etc.)



Neutral Questions



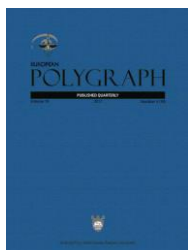
# Accuracy comparable to expertly administered polygraph tests

Lab Studies

Experiment	Factors	N	Guilty	Innoc.	Mean Accuracy
Osher 2	Issues, serial format	40	85	85	85.0
Webb	Sex; motivation	112	82.1	89.2	85.7
Patnaik 1	Direct interrogation	48	83.3	95.8	89.6
Monterrey	Language; culture	145	84.1	87.3	85.7
Patnaik 3	Distributed; post-response	80	82.5	90	86.3
Middle East 1	Language; culture	112	80.4	88.5	84.5
Middle East 2	Language; culture	101	81.2	86.2	83.7
<b>TOTAL WEIGHTED</b>					<b>85.9</b>

Field Studies

Field (INM/FP/PGR)	Drug Use; Sabot. & Espionage	154	84.5	87.8	86.15
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Results presented to and accepted by U.S. National Center for Credibility Assessment (NCCA). Published in the European Polygraph. Vol. 10, Number 4(38), Published Quarterly, 2017.



# EyeDetect Hardware



# How EyeDetect Works

## 4 Simple Steps

### 1. Calibration of Eyes



### 2. Answer T/F questions



### 3. Upload data to cloud



### 4. Access Results and Report in 5 minutes



**Not Credible  
Deceptive**

Drug Use:  
Forgery:



**Credible  
Truthful**