

---

## Achraf Cohen, PhD

11000 University Pkwy,  
Pensacola, FL 32514  
Building 4, room 337B

[acohen@uwf.edu](mailto:acohen@uwf.edu)

<https://pages.uwf.edu/acohen/>

Work: (850)-474-2625

Cell: 850-356-6958

---

---

### Research interests

Statistical process monitoring, control charts, wavelets, statistics of wavelet coefficients, forecasting, data-driven methods, classification, machine learning.

---

---

### Experience

#### Assistant Professor

Department of Mathematics and Statistics  
University of West Florida

Aug 2018- PRESENT, USA

- Research on **control charts and statistical process monitoring methods**.
- Research on load **forecasting**.
- Teach undergraduate and graduate courses:
  - STA6856 Time Series Analysis,
  - STA6971 Thesis,
  - STA6930 Proseminar in Statistics,
  - STA6707 Multivariate Methods,
  - STA6507 Nonparametric Statistics,
  - STA6257 Advanced Statistical Modeling,
  - STA6246 Design and Analysis of Experiments,
  - STA5990 MathStats Tools,
  - MAT4500 Proseminar in Math / Stats,
  - STA4321 Intro. Mathematical Statistics,
  - STA4051 Nonparametric Statistics.
  - STA3905 Financial Time Series and Regression Methods
- Advise undergraduate and graduate student researchers.
- Service: Member of the Resource Allocation Committee (RAC, 2021), Proseminar committee (2018-), General Education committee (2018/2019), Education Doctoral Dissertation committees (2), Chair of the colloquium committee (2019-2020). Member of the organizing committee of the ASA Florida Chapter annual meeting 2020.

#### Postdoctoral Teaching Associate

Department of Mathematics and Statistics  
University of West Florida

Feb 2016 - May 2018, USA

- Create and conduct new research projects/publications with faculty at Hal Marcus College of Science and Engineering, especially in the Department of Mathematics and Statistics.
- Develop and Submit grant proposals (3 NSF and 1 EPA).
- Teach graduate courses: Time Series Analysis, Nonparametric Statistics, and Multivariate Methods.
- Advise students with statistical analysis.
- Service: presentation proseminar, colloquium committee, mock interviews.

### Graduate Teaching Associate

ISTIA - Graduate School of Engineering

The University of Angers

Oct 2012 - Dec 2015, France

- Taught courses:
  - Statistical quality control,
  - Applied statistics,
  - Reliability engineering.

---

## Education

---

### Ph.D. in Applied Statistics-Mathematics

University of Angers

Oct 2012- Dec 2015, France

Thesis: Fault detection and diagnosis in complex systems by multi-scale approaches. Work with Statistical Models and Machine learning methods to monitoring process. Advisors: Dr. A. Kobi and Dr. T. Tiplica.

### Engineer Telecoms and Computer Network (M.S.)

National School of Applied Science-Tangier

Sep 2006 - Jul 2011, Morocco

Thesis: Designing a discrimination multi-scale method, application to Stereoscopy. Design a classifier using wavelets coefficients to detect objects in images. Advisors: Dr. A. Ezzine and Dr. Y. Ruichek

---

## Publications

---

### PEER-REVIEWD JOURNALS AND CHAPTER BOOKS

1. A. Mishra, A. Cohen, T. Reichherzer, W. Norman. **Detection of Data Anomalies at the Edge of Pervasive IoT Systems**. Computing (IF=2.044) Springer-Nature. 2021.
2. MA. Atoui, A. Cohen. **Coupling data-driven and model-based methods to improve fault diagnosis**. Computers in Industry (IF=3.954). 2021.
3. A. Cohen, MA. Atoui. **On wavelet-based statistical process monitoring**. Transactions of the Institute of Measurement and Control. 2020. (Impact Factor = 1.649)

4. [A. Cohen](#), I. Alhuraish, C. Robledo, A. Kobi. **A statistical analysis of critical quality tools and companies' performance**. Journal of Cleaner Production, Vol. 255, **2020**. (Impact Factor = 7.246)
5. M. Atoui, [A. Cohen](#), S. Verron, A. Kobi. **A single Bayesian network classifier for monitoring with unknown classes**. Engineering Applications of Artificial Intelligence. Engineering Applications of Artificial Intelligence. Vol. 85, pp. 681-690. **2019**. (Impact Factor = 4.2)
6. S. New, H. Nano, [A. Cohen](#), B. Ramachandran. **Load Forecasting using Multiple Linear Regression with the Indian Calendar**. Distributed Energy Resources in Microgrids. Springer. **2019**
7. [A. Cohen](#), C. Messaoudi , H. Badir. **A New Wavelet-Based Approach for Mass Spectrometry Data Classification**. In: Zhao Y., Chen DG. (eds) *New Frontiers of Biostatistics and Bioinformatics* . ICSA Book Series in Statistics. Springer, Cham. **2018**.
8. [A. Cohen](#), R. Amin. **The Effects of Normal Mixtures and Autocorrelation on the Fraction Non-Conforming**. *Communications in Statistics - Simulation and Computation*,1-13. **2017**. (Impact Factor = 0.651)
9. [A. Cohen](#), T. Tiplica, A. Kobi. **OWave control chart for monitoring the process mean**. *Control Engineering Practice*, Vol. 54, pp. 223-230. **2016**. (Impact Factor = 3.19)
10. [A. Cohen](#), T. Tiplica, A. Kobi. **Design of experiments and statistical process control using wavelets analysis**. *Control Engineering Practice*, Vol. 49, pp. 129-138. **2016**. (Impact Factor = 3.19)
11. A. Ezzine, Y.Y. Alaoui, [A. Cohen](#). **Adaptive Multiscale Stereo Images Matching Based on Wavelet Transform Modulus Maxima**. International Journal of Image Processing. Vol.6(5), pp. 373-379. 2012.

## CONFERENCES & MEETINGS

12. [A. Cohen](#). **A Methodology to Classify High-dimensional Data: Application to Mass Spectrometry Data**. JSM, Denver, Colorado. Poster. **2019**.
13. M. Atoui, [A. Cohen](#), P. Rauffet, P. Berruet. Fault Diagnosis by Bayesian Network Classifiers with a Distance Rejection Criterion. Short paper presented at ICINCO 2019 conference (IEEE-IFAC). Prague, 2019.
14. S. New, H. Nano, B. Ramachandran, [A. Cohen](#). Load Forecasting using Multiple Linear Regression with the Indian Calendar. Poster - 2019 UWF Student Scholars Symposium. **2019**.
15. T. Stevens, B. Ramachandran, [A. Cohen](#). Economic Operation of Microgrid Energy Resources Considering Uncertainties. IEEE SoutheastCon. **2018**.

16. A. Cohen. Wavelet-Based Methods for Data-Driven Monitoring. The 2018 American Statistical Association Conference on Statistical Practice, Portland, Oregon. Poster. **2018**.
17. The 5th Workshop on Biostatistics and Bioinformatics in Atlanta, May 5-7. **2017**.
18. ASA Conference on Statistical Practice (CSP2017) in Jacksonville, Feb 23-25. **2017**.
19. FL ASA Annual Meeting in Jacksonville. **2017**
20. A. Cohen, T. Tiplica, A. Kobi. Weighted Wavelets Coefficients for Monitoring Process Mean. International Conference on Advances in Control and Optimization of Dynamical Systems, Tiruchirappalli, India / IFAC-PapersOnline, Vol. 49-1, pp. 819-823. **2016**.
21. A. Cohen, T. Tiplica, A. Kobi. Statistical process control for AR(1) or non-Gaussian processes using wavelets coefficients. Conference: 12th European Workshop on Advanced Control and Diagnosis, at Pilsen, Czech Republic. Volume: Journal of Physics: Conference Series 659. **2015**
22. T. Tiplica, A. Cohen, A. Ezzine. Road signs detection in color images by statistical approach. Conference Proceeding, QUALITA2013, Compiègne, France. Vol. 49, pp. 129-138. **2013**.

---

## Grants

- Co-PI with PI Dr. T. El Mezyani and Co-PI Dr. P. Kreidl (University of North Florida). Cyber Florida. Defensive and Resilient Power Grids with Detection of False Data Injection Attack. Total cost projects: \$75,000. (not funded). **2020**.
- An internal Grant with University of Angers (France) to allow Dr. Castinier and Dr. Kobi (University of Angers) to visit the University of West Florida - Math Stat Department. \$5,000 (funded) **2019**.
- Co-PI with Dr. Ramachandran (PI) and Dr. Croicu (PI). NSF - Energy, Power, Control, and Networks (EPCN). Total Project Costs: \$ 239,647. (not funded). **2018**.
- Co-PI with Dr. Amin (PI). Environmental Education Local Grants Program, Total Project Costs: \$121,482. (not funded). **2017**.
- Co-PI with Dr. Ramachandran (PI). NSF - Energy, Power, Control, and Networks (EPCN). Total Project Costs: \$303 611. (not funded). **2017**.

---

## Computer tools

- R, SAS, Matlab, Microsoft Office, LaTeX.
- SPSS, Photoshop, PHP/HTML/CSS, OS(Ubuntu, Windows, Mac).
- Statistica, Octave, MySQL, C.

- 
- Member, American Statistical Association

## Awards and Scholarship activities

- Florida Chapter
- Quality and Productivity Section
- Statistical Learning and Data Mining Section
- Reviewer for:
  - Computer and Industrial Engineering - Statistics section.
  - Transactions of the Institute of Measurement and Control
  - A Proposal book. “Time Series Analysis and Forecasting Methods in R”. Taylor and Francis Group.
  - Communications in Statistics-Simulation and Computation
  - Measurement
  - Entropy
  - Measurement and Control
  - Journal of Industrial Engineering International
- Featured Author in [Advanced in Engineering](#), Canada. 2016.
- Doctoral Scholarship by Ministry of Higher Education and Research, France. 2012-15
- Engineer Degree Graduation Award by National School of Applied Sciences - Tangier, Morocco. 2011.