

# Corrosion Research at UGA

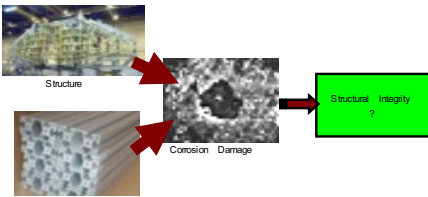
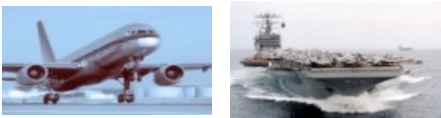


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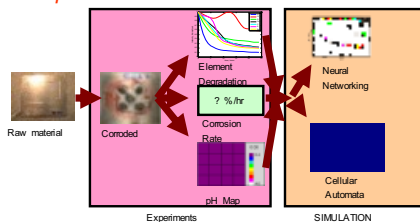
Contact: Professor Ramana Pidaparti; E-mail: [rmparti@uga.edu](mailto:rmparti@uga.edu) Tel: 706-542-4057

## Why study corrosion?

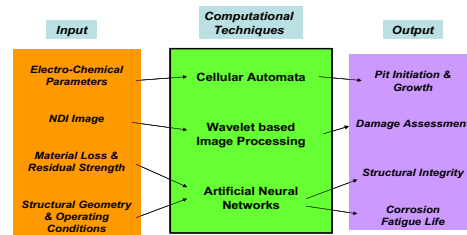
- 20 billion dollars per year in corrosion maintenance costs
- Growing problem in many industries



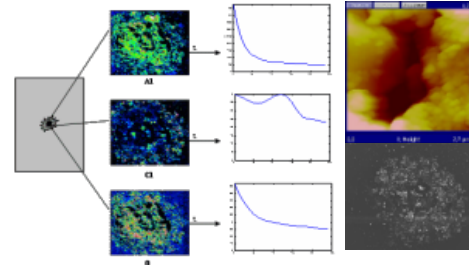
## Approach – Combined Experiments & Intelligent Computations



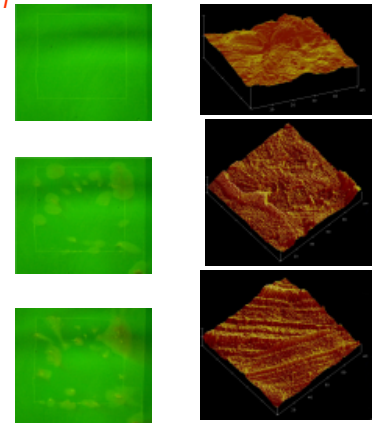
## Overview of Corrosion Health Assessment



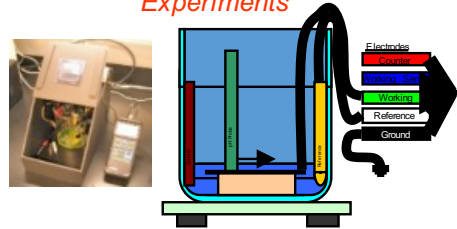
## Degradation of Chemical Elements during Corrosion



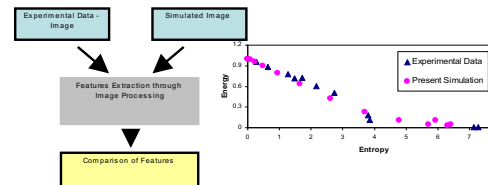
## Corrosion Sensing & AFM Imaging Results



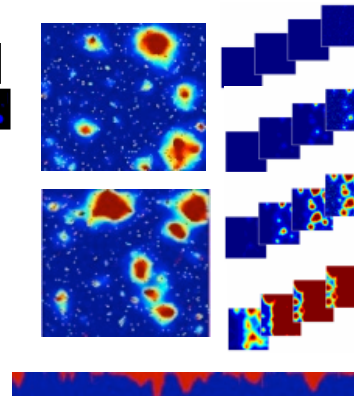
## Experiments



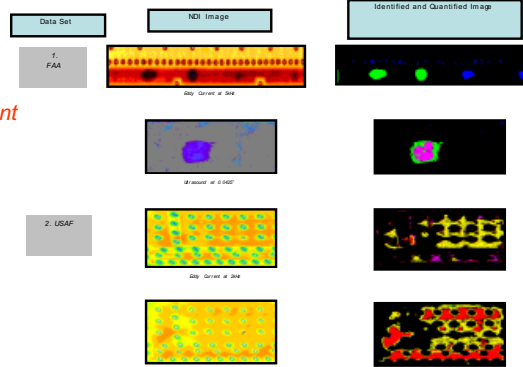
## Validations of Simulations



## Intelligent Simulations (2D & 3D)

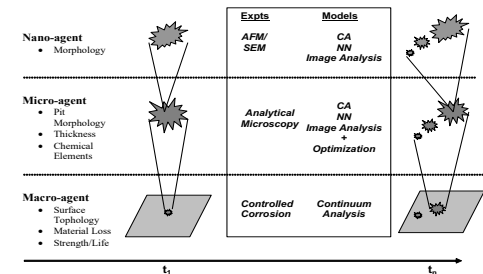


## Corrosion Assessment - Results



## Future Work

- Multi-scale Microscopy and Modeling
- Combined Discrete and Continuum Modeling Techniques for Corrosion Risk Assessment
- Develop a user friendly simulation software



## Acknowledgements

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