



# Analysis of Critical Heat Flux Correlations for Small Modular Pressurized Water Reactors

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# Roadmap

- Introduction
- Comparing Correlations
- Results
- Conclusion



# NS 50 Let Pobedy



Half a kilogram of uranium instead of 100 tons of gas per day

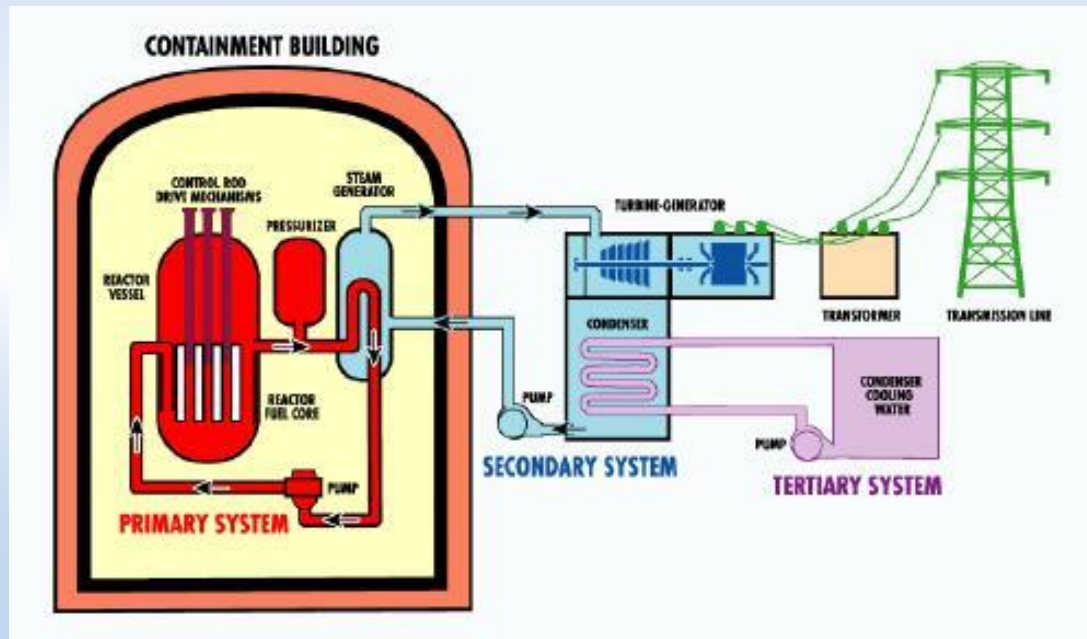
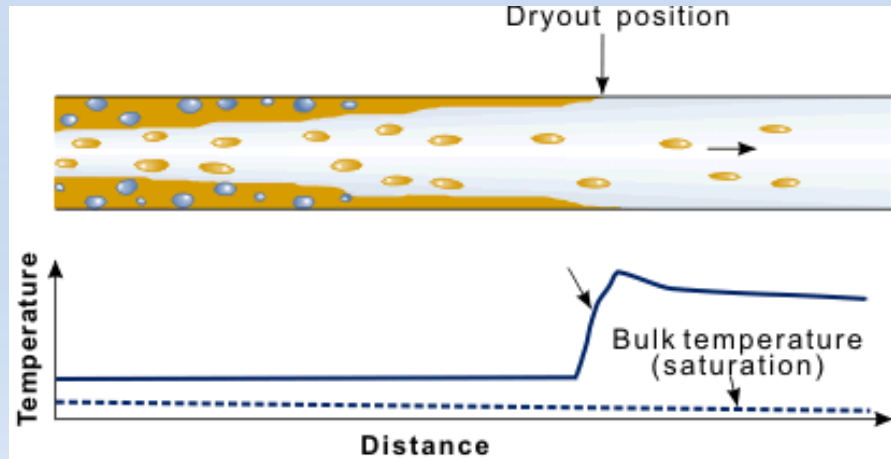
# The Problem



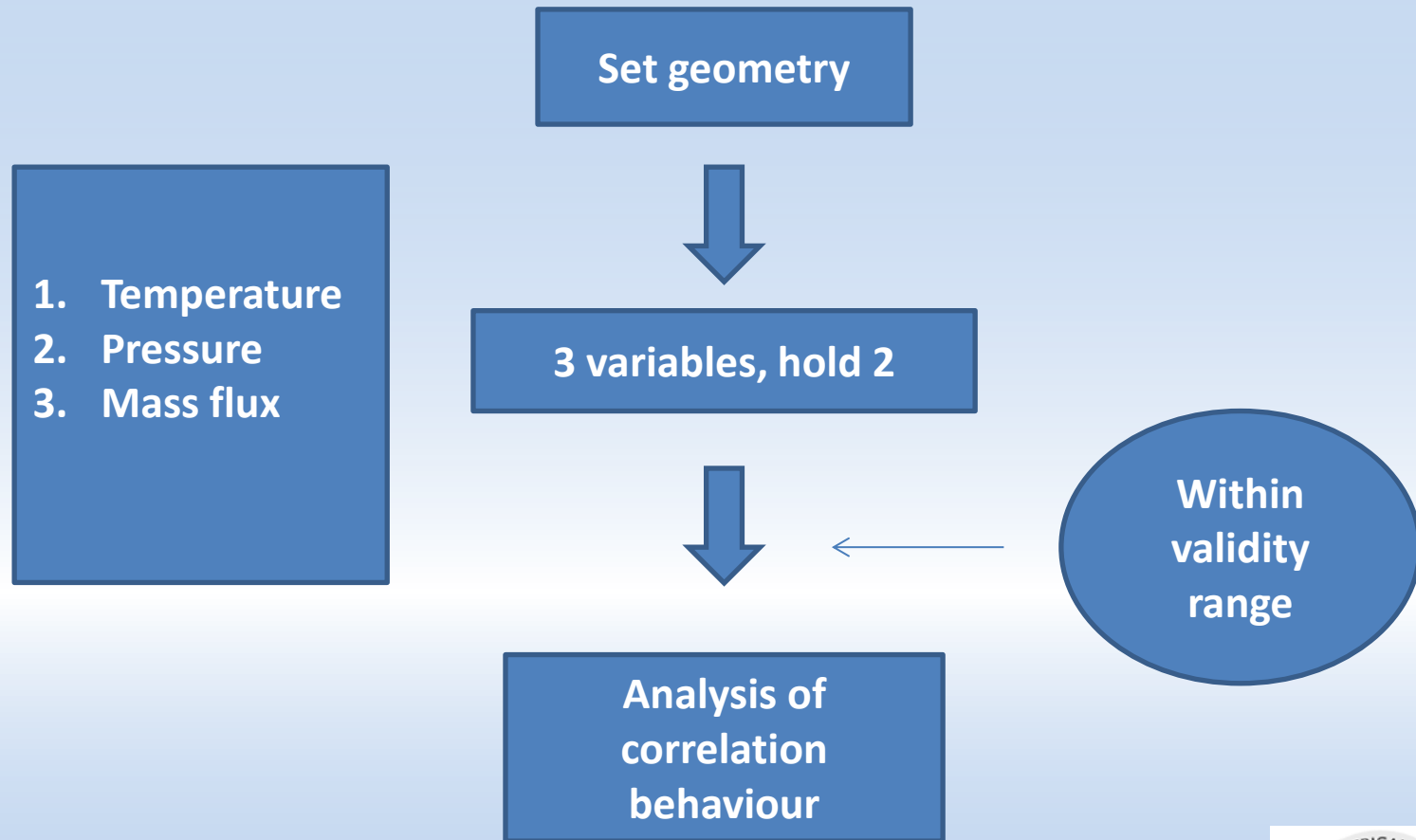
How to predict the unpredictable?



# The Problem



# Comparing Correlations



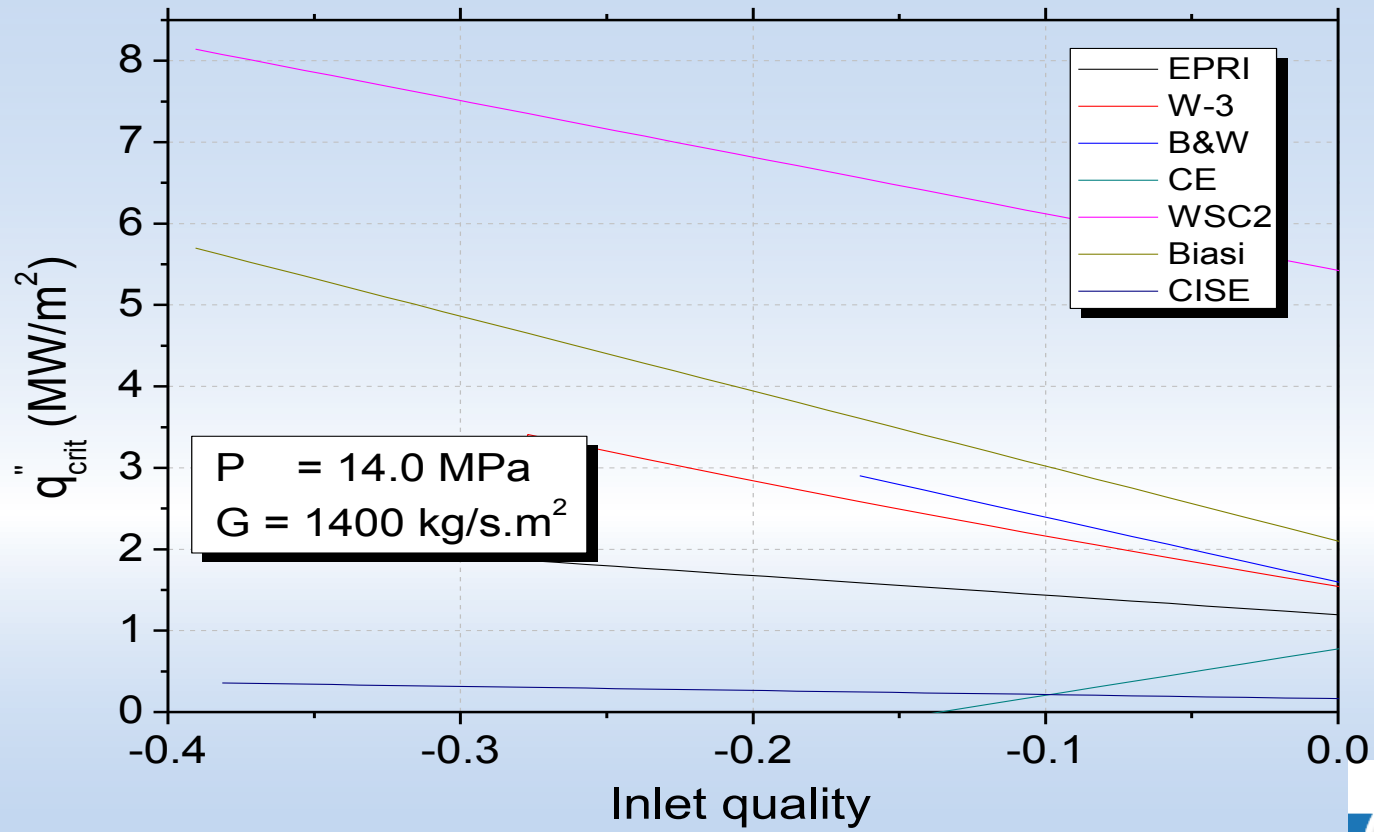
# Correlations Used

- **EPRI** (EPRI, 1983)
- **W-3** (Tong, 1967 *apud* Tong and Tang, 1997)
- **B &W-2** (Gellerstedt et al., 1969 *apud* Tong and Tang, 1997)
- **CE-I CHF** (C-E Report, 1975, 1976 *apud* Tong and Tang, 1997)
- **Bowring Correlation** (Bowring, 1962 *apud* Tong and Tang, 1997)
- **ARS CHF (or Biasi)** (Biasi *et al*, 1967 *apud* Tong and Tang, 1997)
- **GE** (Jenssen and Levy, 1962 *apud* Tong and Tang, 1997)
- **CISE** (Bertoletii *et al*, 1965 *apud* Tong and Tang, 1997)



# Results and conclusions

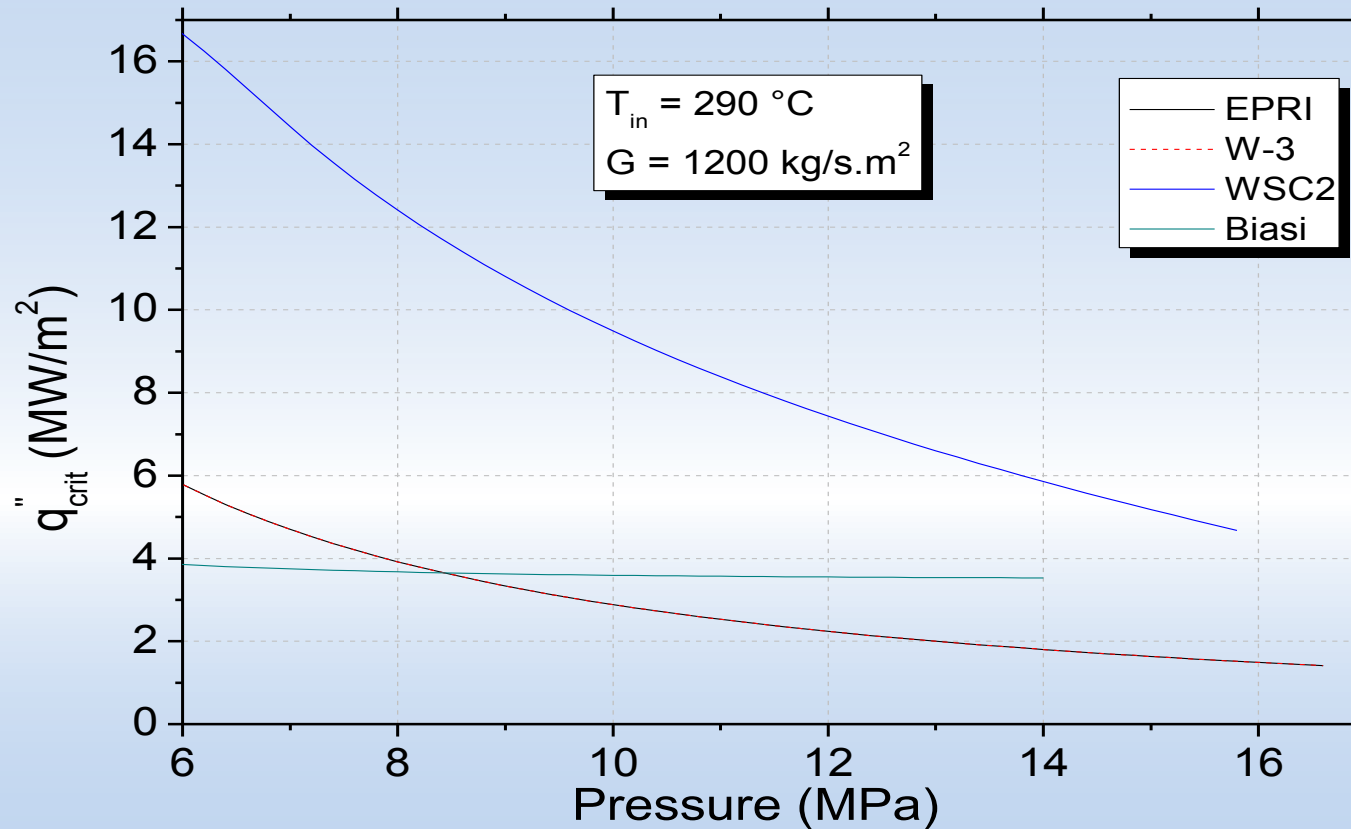
Pressure and Mass Flux unchanged





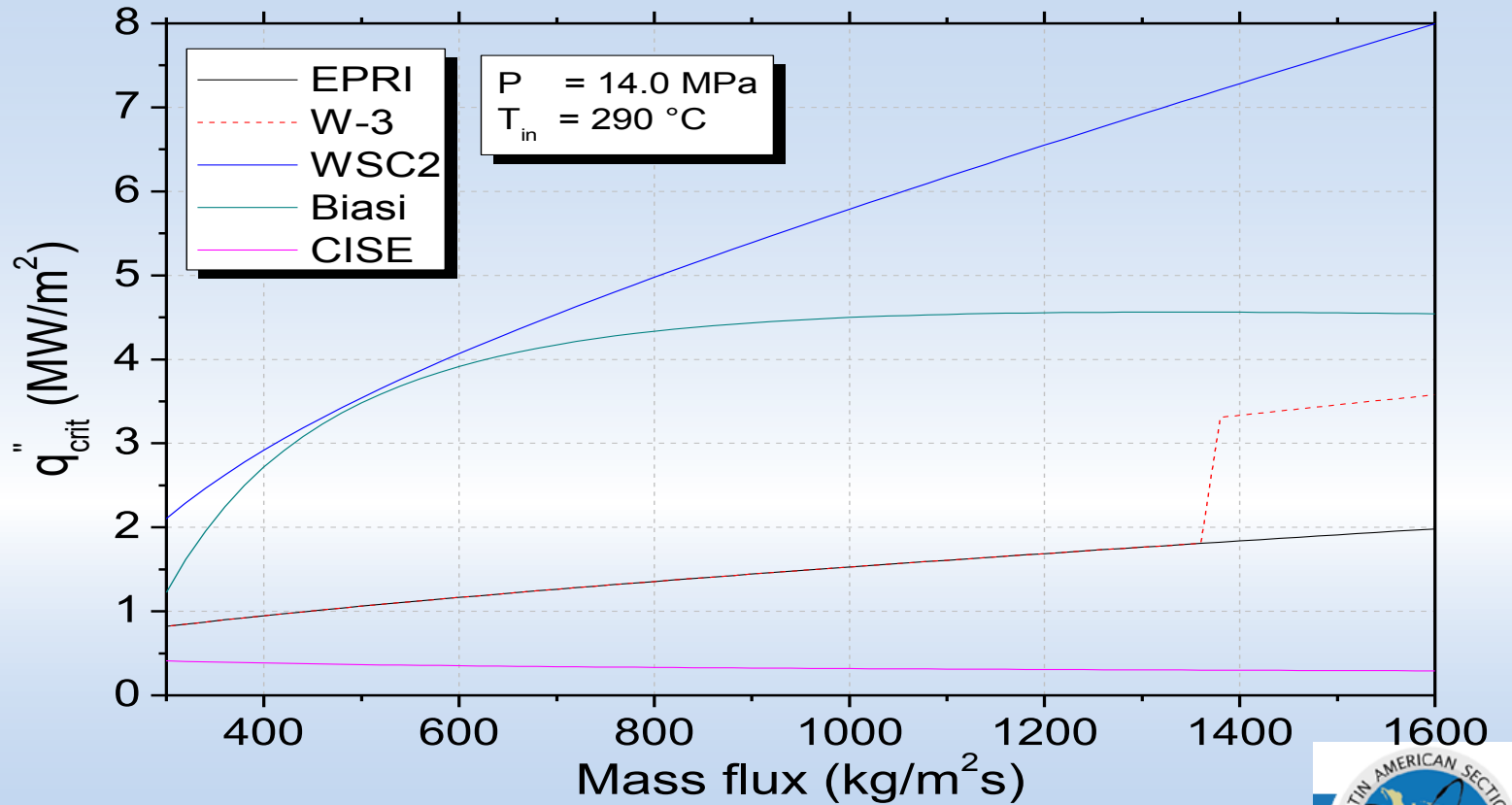
# Results and conclusions

Temperature and Mass Flux unchanged



# Results and conclusions

Pressure and Temperature unchanged





**Thank you for your attention**

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