

**Michael L. Corradini – Nuclear Engineering & Engineering Physics** - Birthdate - 8/6/52, US Citizen

1500 Engineering Drive, Madison WI - Phone: 608-263-1648 - Email: [Corradini@engr.wisc.edu](mailto:Corradini@engr.wisc.edu)  
Wisconsin Distinguished Professor, Nuclear Engineering, University of Wisconsin-Madison

## **EDUCATION**

B.S. - 1975 - Mechanical Engineering Marquette University, Milwaukee WI

M.S. - 1976 - Nuclear Engineering Massachusetts Institute of Technology, Cambridge MA

Ph.D.- 1978 - Nuclear Engineering Massachusetts Institute of Technology, Cambridge MA

## **PROFESSIONAL EXPERIENCE**

1972-74 Co-op student at Zion Nuclear Station, Commonwealth Edison,

1976 Research Assistant at Brookhaven National Lab for Dr. M.S. Kazimi

1976-78 Research and Teaching Assistant at MIT for Professor N.E. Todreas,

1976-78 Assisted Professor N.E. Todreas in writing book on Nuclear Reactor Engr

1978-81 Member of the Technical staff at Sandia National Laboratories,

- Principal Investigator for the NRC LWR Steam Explosion Research Program

- Analyst for the Liquid Metal Safety Research Program in LMFBR for USNRC

- Analysis and experiments in conjunction with USNRC Hydrogen Research

- Analyst for the LWR Molten-Core-Concrete Research Program for USNRC

- Analyst for the DOE Nevada Test Site Yucca Mountain Radioactive Waste

1980-81 Adjunct Professor at University of New Mexico

1981-Present Professor at University of Wisconsin in Nuclear Engr/Mech Engr

Present Current member of ASME, AIChE, ANS; Prog Committee for ANS

Reactor Safety Division, Member of AIChE NHT Committee

1995 - 2001 Associate Dean for Academic Affairs, College of Engineering

2002 – 2004 Chairman of the United States Nuclear Waste Technical Review Board

2001 – present Chair, Engineering Physics Dept; Director, Wisconsin Institute of Nuclear Systems

2006 – present Member of the USNRC Advisory Committee on Reactor Safeguards

2006 – present Member of CEA DEN Scientific Review Committee on Atomic Energy

## **PROFESSIONAL DISTINCTIONS**

- \* Advisor/Consultant to the Presidential Commission on TMI2, 1979

- \* Member of NRC Review Group on the PRA Guidebook 1981-1985

- \* NSF Presidential Young Investigator's Award in Nuclear Reactor Safety -1984

- \* Member of the Wisconsin Radioactive Waste Review Board Technical Advisory Comm.

- \* Consultant to the NRC Advisory Committee on Reactor Safeguards (1982-1997)

- \* Vice-Chairman of NRC Steam Explosion Expert Review Group, 1985

- \* Chair of NRC NUREG-1150 Containment Event Tree Review Group, 1985

- \* Member of BETA Core-Concrete Interaction Test Technical Advisory Comm (1982-86)

- \* Director of University of Wisconsin Nuclear Safety Research Center, 1985 - 2000

- \* Member of Expert Group on Radioactive Source Term for NUREG-1150, 1988

- \* Member of DOE New Production Reactor Safety Board (1988-1990)

- \* Member of EPRI Adv. Containment Experiment Technical Advisory Comm (1988- 1999)

- \* Member of DOE Nuclear Energy Research Advisory Committee (2000 to present)

- \* Chair of DOE NERAC Blue Ribbon Panel on Future of Nuclear Engineering Progs, 2000

- \* Member of the DOE Generation IV Technology Roadmap Committee (2001-2003)

- \* Member of the INPO National Academy of Nuclear Training (2004 to present)

- \* Chair of Faculty Committee for UW-Madison Energy Institute (2005- present)

## PROFESSIONAL AWARDS and ACCOMPLISHMENTS

- \* Awarded the NSF Presidential Young Investigator's Award, 1984
- \* American Nuclear Society Reactor Safety Best Paper Award, 1985
- \* Fellow of the American Nuclear Society, 1990
- \* ANS Young Members Engineering Achievement Award, 1990
- \* Wisconsin Distinguished Professorship, 1993
- \* University of Wisconsin Chancellor's Teaching Award, 1996
- \* Elected to the National Academy of Engineering, 1998

## PUBLICATIONS SUMMARY

- \* Two book chapters and one book [on multiphase flow]
- \* Journal Articles or Publications: 95
- \* Conference Proceedings 170
- \* Reviewed Summaries 36
- \* Laboratory Topical Reports 35
- \* UW Nuclear Safety Research Center Reports 85
- \* Invited Papers and Talks 72

## STUDENT SUMMARY

- |                               |    |                      |    |
|-------------------------------|----|----------------------|----|
| * Masters Science Graduates   | 85 | PhD Thesis Graduates | 45 |
| * Current PhD Thesis Students | 6  | Current MS Students  | 1  |

## RECENT CONFERENCE and JOURNAL PUBLICATIONS FROM OVER 200

1. D. Cho, R. Page, S.Abdulla, H.Klockow, M.Anderson, M.Corradini, "Melt Quenching and Coolability by Water Injection From Below: Co-Injection of Water and Noncondensable Gas," Journal of Nuclear Engineering and Design, V236, No.19 (October 2006)
2. P. Peterson, W. Kastenber, M. Corradini, "Going Beyond 10,000 Years at Yucca Mountain," National Academy Issues of Science and Technology, pp 47 (Summer 2006)
3. K.W. Seo, M.H. Kim, M. Anderson, M. Corradini, "Heat Transfer in a Supercritical Fluid: Classify of Heat Transfer Regimes," Journal of Nuclear Technology, V154, No3 (June 2006).
4. R. Jain, M. Corradini, "A Linear Stability Analysis for Natural Circulation Loop Under Supercritical Conditions", Journal of Nuclear Technology, V155, No. 3, p312 (Sept. 2006).
5. G.Mignot, M.Anderson, M.Corradini, "Critical Flow Experiment and Analysis for Supercritical Fluids", Journal of Nuclear Engineering Technology, V12 (August 2007).
6. M.Corradini, "New Technology: Safety Improvements in Advanced Nuclear Power Systems", Health Physics Journal, Vol.93, No.5 (November 2007).
7. J.Licht, M.Anderson, M.Corradini, "Heat Transfer to Water at Supercritical Pressures in a Circular and Square Annular Flow Geometry", Accepted to International Journal of Heat and Fluid Flow, December 2007 and now in Press.
8. G.Mignot, M.Anderson, M.Corradini, "Measurement and Modelling of Critical Flow for Supercritical CO<sub>2</sub> with emphasis on Roughness and Diameter influence", Accepted to Journal of Nuclear Engineering and Design, December 2007 and now in Press.
9. M.Corradini, "Transport Phenomena in Supercritical Fluids for GENIV Reactor Designs", Accepted to Journal of Nuclear Technology, February 2008 and now in Press.
10. J.Licht, M.Anderson, M.Corradini, "Progress on Local Density Measurements under Conditions Leading to Deterioration in Supercritical Water Heat Transfer", Submitted to Journal of Nuclear Engineering and Design, January 2008.