

Southern Idaho Section – ASCE Snake River Branch Meeting in Eastern Idaho

DATE: Tuesday May 16, 2017
TIME: 12:00 pm
LOCATION: Pizza Pie Café, 3160 E 17th St., Ammon, Idaho
COST: Free Buffet Lunch and Drink (provided by ASCE Snake River Branch)
SUBJECT: Physical and Numerical Modeling of Hydraulic Structures,
 Prof. Bruce Savage, Ph.D., P.E., Idaho State University

Fluid flow can be a very complex and often misunderstood. In the past, hydraulic structures have primarily been designed using simplified equations, design nomographs and physical models. In the last two decades, computing power and numerical algorithms have significantly improved allowing numerical modeling to be used in research and the design process. Specifically, Computational Fluid Dynamics (CFD) or the numerical solution to the Reynolds-Averaged Navier-Stokes equations, has become a viable tool in the design of hydraulic structures such as dams, spillways and fish ladders. The use of CFD compliments physical modeling and has created a new area titled composite modeling. In this presentation, the concept of CFD is briefly introduced along with physical modeling. Several design and research projects that have used CFD, including an RCC stepped-spillway project in Grace, Idaho, will be presented.

Sign-In Sheet:

Lunch purchased by Snake River Branch (check if yes)

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|-----|-------------------------|--|-------|-------------------------------------|
| 1. | <u>John P. Gilmore</u> | email: <u>jpgilmore@hotmail.com</u> | Lunch | <input checked="" type="checkbox"/> |
| 2. | <u>Nathan Harris</u> | email: <u>harrisn@byui.edu</u> | Lunch | <input checked="" type="checkbox"/> |
| 3. | <u>W. Brooks Looper</u> | email: <u>loopwb@hotmail.com</u> | Lunch | <input checked="" type="checkbox"/> |
| 4. | <u>MARVIN FIELDING</u> | email: <u>mfieldingekellerassociates.com</u> | Lunch | <input checked="" type="checkbox"/> |
| 5. | <u>JIM LAWRENCE</u> | email: <u>lawrenceja@byui.edu</u> | Lunch | <input checked="" type="checkbox"/> |
| 6. | <u>Lance Bates</u> | email: <u>lbates@co.bonneville.id.us</u> | Lunch | <input checked="" type="checkbox"/> |
| 7. | <u>Arya Ebrahimpour</u> | email: <u>ebraarya@isu.edu</u> | Lunch | <input checked="" type="checkbox"/> |
| 8. | <u>JEFF HANSEN</u> | email: <u>jhansen@es2eng.com</u> | Lunch | <input checked="" type="checkbox"/> |
| 9. | <u>JADEN JACKSON</u> | email: <u>jjackson@kellerassociates.com</u> | Lunch | <input type="checkbox"/> |
| 10. | <u>BILL SHAW</u> | email: <u>BILL.SHAW@ITD.IDAHO.GOV</u> | Lunch | <input checked="" type="checkbox"/> |
| 11. | <u>JORDAN PARKER</u> | email: <u>jparker@jub.com</u> | Lunch | <input checked="" type="checkbox"/> |
| 12. | <u>Rob Lane</u> | email: <u>rlane@jub.com</u> | Lunch | <input checked="" type="checkbox"/> |
| 13. | <u>Eric Stoddard</u> | email: <u>eric.stoddard@frost-structures.com</u> | Lunch | <input checked="" type="checkbox"/> |
| 14. | <u>BRUCE SAVAGE</u> | email: <u>SAVABRUC@ISU.EDU</u> | Lunch | <input checked="" type="checkbox"/> |
| 15. | <u>Mary Pinie</u> | email: <u>pinie.mary@gmail.com</u> | Lunch | <input checked="" type="checkbox"/> |

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| 16. | <u>Jake Merrill</u> | email: <u>jake.merrill@es2eng.com</u> | Lunch <input checked="" type="checkbox"/> |
| 17. | <u>DREW MEPPEN</u> | email: <u>drewmep@gmail.com</u> | Lunch <input checked="" type="checkbox"/> |
| 18. | <u>Karen Hiatt</u> | email: <u>Karen.hiatt@itd.idaho.gov</u> | Lunch <input checked="" type="checkbox"/> |
| 19. | <u>Jeremie Pettingill</u> | email: <u>jeremie.pettingill@itd.idaho.gov</u> | Lunch <input checked="" type="checkbox"/> |
| 20. | <u>Joan Burgert</u> | email: <u>joan.burgert@itd.idaho.gov</u> | Lunch <input checked="" type="checkbox"/> |
| 21. | <u>Randal Brunello</u> | email: <u>Randal.brunello@itd.idaho.gov</u> | Lunch <input checked="" type="checkbox"/> |
| 22. | <u>Ken Hahn</u> | email: <u>Ken.Hahn@itd.idaho.gov</u> | Lunch <input checked="" type="checkbox"/> |
| 23. | <u>Chris Caudwell</u> | email: <u>ccaudwell@idahohealthidaho.gov</u> | Lunch <input checked="" type="checkbox"/> |
| 24. | <u>Robert Esplin</u> | email: <u>REsplin@ES2ENG.COM</u> | Lunch <input checked="" type="checkbox"/> |
| 25. | <u>Kent Fugal</u> | email: <u>kfugal@idahohealthidaho.gov</u> | Lunch <input checked="" type="checkbox"/> |
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