

NAME: Thomas Novak

POSITION TITLE AND INSTITUTION: Professor and Holder of the Alliance Coal Academic Chair

PROFESSIONAL PREPARATION

The Pennsylvania State University	University Park, PA	Mining Engineering	Ph.D.	1984
University of Pittsburgh	Pittsburgh, PA	Mining Engineering	M.S.	1978
The Pennsylvania State University	University Park, PA	Electrical Engineering	B.S.	1975

PROFESSIONAL LICENSE:

Professional Engineer: Alabama: No. 18233-E and Pennsylvania: No. PE-046660-R

APPOINTMENTS:

11/01/2010 – Present	Professor and Holder of the Alliance Coal Academic Chair, Mining Engineering, University of Kentucky, Lexington, KY
07/01/2017 – 06/30/2020	Professor, Department Chair, and Holder of the Alliance Coal Academic Chair, Mining Engineering, University of Kentucky, Lexington, KY
03/01/2008 – 10/31/2010	Division Director, Mining Science and Technology, Office of Mine Safety and Health Research, CDC/NIOSH, Pittsburgh, PA
11/01/2004 – 02/28/2008	C.T. Holland Professor and Department Head, Mining and Minerals Engineering, Virginia Polytechnic Institute and State University, Blacksburg, VA
08/01/2001 – 10/31/2004	Professor and Department Head, Mining and Minerals Engineering, Virginia Polytechnic Institute and State University, Blacksburg, VA
01/01/2000 – 07/31/2001	Professor, Department Head, and Holder of the Garry Neil Drummond Chair, Civil and Environmental Engineering, University of Alabama, Tuscaloosa, AL
08/01/1999 – 12/31/2000	Professor and Holder of the G. N. Drummond Chair of Civil Engineering, University of Alabama, Tuscaloosa, AL
08/01/1998 – 07/31/1999	Professor and Interim Department Head, Aerospace Engineering and Mechanics University of Alabama, Tuscaloosa, AL
08/01/1996 – 07/31/1998	Professor, Electrical Engineering, University of Alabama, Tuscaloosa, AL
08/01/1988 – 07/31/1996	Associate Professor, Mineral Engineering, University of Alabama, Tuscaloosa, AL
07/01/1983 – 07/31/1988	Assistant Professor, Mineral Engineering, University of Alabama, Tuscaloosa, AL
08/01/1981 – 06/30/1983	Instructor of Mining Engineering and Mining Center Coordinator, The Pennsylvania State University, Fayette Campus, Uniontown, PA
08/01/1978 – 07/31/1981	Instructor of Mining Engineering, The Pennsylvania State University, Fayette Campus, Uniontown, PA
06/01/1976 – 07/31/1978	Electrical Engineer, U.S. Bureau of Mines, Pittsburgh Research Center, Pittsburgh, PA
05/01/1975 – 05/30/1976	Assistant Division Maintenance Engineer, Republic Steel Corporation, Northern Coal Mines Division, Uniontown, PA

RESEARCH INTERESTS:

Mine Ventilation, Mine Power Systems, Automation and Control, Mine Safety, and Mineral Economics.

SELECTED PUBLICATIONS:

- Kumar, A. R., A. Levy, A. Kumar, S. Schafrik, T. Novak, “Computational fluid dynamics modeling and laboratory analysis of aerosol particles' capture on thin swirling water film in a Vortecone,” *Powder Technology*, Feb. 2020, vol. 361, pp. 499-506.
- Arya, S., T. Novak, “Numerical Investigation of the Effect of a Novel Wet Scrubber on Dust Reduction in an Underground Coal Mine,” *Mining, Metallurgy & Exploration*, Feb 2020, vol. 37, pp. 129-139.
- Arya, S., T. Novak, K. Saito, A. Levy, J. Sottile, “Empirical formulae for determining pressure drop across a 20-layer flooded-bed scrubber screen,” *Mining, Metallurgy & Exploration*, Dec 2019, vol. 36, pp. 1169-1177.
- Arya, S., J. Sottile, T. Novak, “Development of a flooded-bed scrubber for removing coal dust at a longwall mining section,” *Safety Science*, Dec 2018, vol. 110, pp. 204-213.
- Arya, S., J. Sottile, J. P. Rider, J. F. Colinet, T. Novak, W.C. Wedding, “Design and experimental evaluation of a flooded-bed dust scrubber integrated into a longwall shearer,” *Power Technology*, Nov 2018, vol. 339, pp. 487-496.
- Reyes, M.A. and T. Novak, “Injury Surveillance and Safety Considerations for Large Format Batteries,” *IEEE Transactions on Industry Applications*, Mar/Apr 2016, pp. 1925-1930.
- Sottile, J., T. Novak, A. Tripathi, “Best Practices for Implementing High-Resistance Grounding in Mine Power Systems,” *IEEE Transactions on Industry Applications*, vol. 51, no. 6, Nov/Dec 2015.
- Mazur, D.C., J. Sottile, T. Novak, “An Electrical Mine Monitoring System Utilizing the IEC 61850 Standard,” *IEEE Transactions on Industry Application*, 2015, Mar/Apr, pp. 1317-1325.
- Novak, T., “Safety Analysis of Trailing Cables used on 2400-V Continuous Mining Machines,” *IEEE Transactions on Industry Applications*, vol. 48, no. 2, March/April, 2012, pp. 567-574.
- Novak, T., D.P. Snyder, J.L. Kohler, “Post Accident Mine Communications and Tracking Systems,” *IEEE Transactions on Industry Applications*, vol. 46, no. 2, March/April, 2010, pp. 712-719.
- Sacks, H.K. and T. Novak, “A Method for Estimating the Probability of Lightning Causing a Methane Ignition in an Underground Mine,” *IEEE Transactions on Industry Applications*, vol. 44, no. 2, March/April, 2008, pp. 418-423.
- Sottile, J., S. Gnappagasam, T. Novak, and J.L. Kohler, “Detrimental Effects of Capacitance on High-Resistance Grounded Mine Distribution Systems,” *IEEE Transactions on Industry Applications*, vol. 42, no. 5, September/October, 2006, pp. 1333-1339.
- Sacks, H.K. and T. Novak, “Corona Discharge Initiated Methane Explosions,” *IEEE Transactions on Industry Applications*, vol. 41, no. 5, September/October, 2005, pp. 1316-1322.
- Novak, T., J. Basar, J. Sottile, and J.L. Kohler, “The Effects of Cable Capacitance on Longwall Power Systems,” *IEEE Transactions on Industry Applications*, vol. 40, no. 5, September/October, 2004, pp. 1406-1412.
- Novak, T. and T.J. Fisher, “Lightning Propagation through the Earth and its Potential for Methane Ignitions in Abandoned Areas of Underground Coal Mines,” *IEEE Transactions on Industry Applications*, vol. 37, no. 6, November/December, 2001, pp. 1555-1562.
- Novak, T., “The Effects of Very-High Resistance Grounding on the Selectivity of Ground-Fault Relaying in High Voltage Longwall Power Systems,” *IEEE Transactions on Industry Applications*, vol. 37, no. 2, March/April, 2001, pp. 398-406.
- Novak, T., “Analysis of Very-High Resistance Grounding in High-Voltage Longwall Power Systems,” *IEEE Transactions on Industry Applications*, vol. 37, no. 1, January/February, 2001, pp. 104-111.
- Novak, T. and J.L. Kohler, “Technological Innovations in Deep Coal Mine Power Systems,” *IEEE Transactions on Industry Applications*, vol. 34, no. 1, January/February, 1998, pp. 196-204.
- Johnson, P.W., T. Novak, D.J. White, J.W. Stevenson, R.A. Mills, E.L. Lasseter, and C.M. Boyer, “Use of Mine Ventilation Exhaust as Combustion Air in Gas-Fired Turbo-Electric Generators,” *IEEE Transactions on Industry Applications*, vol. 34, no. 2, March/April, 1998, pp. 399-405.
- Novak, T. and J.K. Martin, “The Application of 4160 V to Longwall Face Equipment,” *IEEE Transactions on Industry Applications*, vol. 32, no. 2, March/April, 1996, pp. 471-479.