

Michael R. Rasmussen  
Professor  
Department of the Built Environment  
The Faculty of Engineering and Science  
Division of Civil and Environmental Engineering  
Urban Water Research Group  
**Type of address: Visiting address.**  
Thomas Manns Vej 23  
1-258  
9220  
Aalborg Øst  
Denmark  
**Email:** mrr@build.aau.dk  
**Phone:** +4599408485



## Research profile

### Education

1997 Ph.D. Aalborg University, Department of Civil Engineering, Hydraulic and Coastal Engineering  
1992 Master of Science in environmental engineering, Aalborg University.

### Research interests

- Sensor technology, with emphasis in urban drainage application.
- Urban hydrology and climatology
- Computational fluid dynamics in environmental systems, ecohydrology and biohydrodynamics.

### Present appointments

Chairman of the Deans counsel at Aalborg University (2013-present)  
Deputy Chairman of the scientific ethics committee (PU) at Aalborg University (2017-present)  
Alternate member of the National Danish Committee on Research Misconduct (NVU) (2017-2021)  
Member of the National Danish Committee on Research Misconduct (NVU) (2021-2023)  
Member of the committee on equality and diversity at Aalborg University (ULD) (2017-present)  
Member of the Rain committee at Water Quality Committee (Spildevands komiteen) (2017-present)

### External project

Has participated in 20 national and international project the last 10 years with a total budget of approx. 200 million Dkr

## Research outputs

### Optimal control strategies for stormwater detention ponds

Goorden, M., Larsen, K. G., Nielsen, J. E., Nielsen, T. D., Qian, W., Rasmussen, M. R., Srba, J. & Zhao, G., Aug 2024, In: *Nonlinear Analysis: Hybrid Systems*. 53, 101504.

### Can stormwater runoff measurements be used for weather radar rainfall adjustment?

Nielsen, J. M., Rasmussen, M. R., Thorndahl, S. L., Ahm, M. K. S. & Nielsen, J. E., 1 May 2024, In: *Journal of Hydroinformatics*. 26, 5, p. 935–953 19 p.

### Merging weather radar data and opportunistic rainfall sensor data to enhance rainfall estimates

Nielsen, J. M., van de Beek, C. Z. R., Thorndahl, S., Olsson, J., Andersen, C. B., Andersson, J. C. M., Rasmussen, M. R. & Nielsen, J. E., 15 Apr 2024, In: *Atmospheric Research*. 300, 107228.

### Model-based prediction of bathing water quality in a lake polluted by fecal coliform bacteria from combined sewer overflows

Thorndahl, S., Nielsen, J. M. & Rasmussen, M. R., 1 Jan 2024, In: *Journal of Environmental Management*. 349, 14 p., 119483.

### Determine stormwater pond geometrics and hydraulics using remote sensing technologies: a comparison between airborne-LiDAR and UAV-photogrammetry field validation against RTK-GNSS

Zhao, G., Rasmussen, M. R., Larsen, K. G., Srba, J., Nielsen, T. D., Goorden, M., Qian, W. & Nielsen, J. E., 1 Jul 2023, In: *Journal of Hydroinformatics*. 25, 4, p. 1256-1275 20 p., 1257.

### Guaranteed safe controller synthesis for switched systems using analytical solutions

Goorden, M., Larsen, K. G., Nielsen, J. E., Nielsen, T. D., Qian, W., Rasmussen, M. R. & Zhao, G., 2023, *2023 IEEE Conference on Control Technology and Applications, CCTA 2023*. IEEE, p. 784-790 7 p. (IEEE Conference on Control

Technology and Applications (CCTA) - Proceedings).

**Monitoring af Overfladeafstrømning fra grønne områder II (MOTO): DANVA VUDP projektrapport**

Nielsen, K. T., Duus, L. B., Rasmussen, M. R., Thorndahl, S. L., Møldrup, P., Svenningsen, R. S., Uggerby, M. & Rasmussen, S. H., 2022, København: Dansk Vand- og Spildevandsforening (DANVA). 36 p.

**Learning Safe and Optimal Control Strategies for Storm Water Detention Ponds**

Goorden, M., Larsen, K. G., Nielsen, J. E., Nielsen, T. D., Rasmussen, M. R. & Srba, J., 2021, *IFAC-PapersOnLine: 7th IFAC Conference on Analysis and Design of Hybrid Systems*. 5 ed. Elsevier, Vol. 54. p. 13-18 6 p. (IFAC-PapersOnLine; No. 5, Vol. 54).

**Safe Recreational Lake Waters II: Protection and warning against faecal bacteria and toxic algae in bathing lakes**

Markfoged, R., Friis-Holm, L. B., Jonassen, S., Starcke, S., Rasmussen, M. R., Thorndahl, S. L., Nielsen, J. M. & Møller, S. T., 2021, p. 1.

**DANVA VUDP projektrapport: Vejradardata – Tilpasset og klar til anvendelse for hele vandsektoren og deres kunder**

Ahm, M. S., Jesuloganathan, Y. M., Rasch, P., Jensen, D. G., Nielsen, J. E. & Rasmussen, M. R., 2020, Aalborg: Institut for Byggeri, By og Miljø (BUILD), Aalborg Universitet. 52 p. (DCE Technical Reports; No. 297).

**Hydraulic effects of stormwater discharge into a small stream**

Thomsen, A. T. H., Nielsen, J. E., Riis, T. & Rasmussen, M. R., 2020, In: *Journal of Environmental Management*. 270, September 2020, 110793.

**Modeling of Subsurface Throughflow in Urban Pervious Areas**

Nielsen, K. T., Nielsen, J. E., Uggerby, M. & Rasmussen, M. R., 2020, In: *Journal of Hydrologic Engineering*. 25, 12, 04020050.

**Field-Scale Monitoring of Urban Green Area Rainfall-Runoff Processes**

Nielsen, K., Møldrup, P., Thorndahl, S. L., Nielsen, J. E., Uggerby, M. & Rasmussen, M. R., 1 Aug 2019, In: *Journal of Hydrologic Engineering*. 24, 8, 04019022.

**Estimation of Storm-Centred Areal Reduction Factors from Radar Rainfall for Design in Urban Hydrology**

Thorndahl, S. L., Nielsen, J. E. & Rasmussen, M. R., 1 Jun 2019, In: *Water*. 11, 6, 1120.

**Areal rainfall from radar in urban drainage analysis and design – some reflections on implementation in Denmark**

Thorndahl, S. L., Andersen, C. B., Nielsen, J. E. & Rasmussen, M. R., 2019, *Rainfall Monitoring, Modelling and Forecasting in Urban Environment. UrbanRain18: 11th International Workshop on Precipitation in Urban Areas. Conference Proceedings*. Peleg, N. & Molnar, P. (eds.). ETH-Zürich, Institute of Environmental Engineering, p. 119-120 2 p. (Rainfall Monitoring, Modelling and Forecasting in Urban Environment. UrbanRain18: 11th International Workshop on Precipitation in Urban Areas. Conference Proceedings).

**Use of weather radar in the water sector in Denmark; what can we learn?**

Thorndahl, S. L., Ahm, M., Nielsen, R., Andersen, C. B., Nielsen, J. E. & Rasmussen, M. R., 2019, p. 23-24. 2 p.

**Can the volume ratio of coarse to fine particles explain the hydraulic properties of sandy soil?**

Nielsen, J. E., Karup, D., De Jonge, L. W., Ahm, M., Bentzen, T. R., Rasmussen, M. R. & Møldrup, P., 2018, In: *Soil Science Society of America Journal*. 82, 5, p. 1093-1100

**Return period assessment of urban pluvial floods through modelling of rainfall-flood response**

Tuyls, D. M., Thorndahl, S. L. & Rasmussen, M. R., 2018, In: *Journal of Hydroinformatics*. 20, 4, p. 829-845 17 p.

**Sikkert søbad: Overvågning, rensning og varsling af regnvandsbetingede overløb**

Bastrup, J., Bastholm, S., Kilian, R., Stjernholm, K., Rasmussen, M. R., Friis-Holm, L. B., Jonassen, S., Olesen, K., Pors, J., Starcke, S., Thorndahl, S. L. & Rebsdorf, M. L., 2018, Aarhus: Miljøstyrelsen. 48 p.

**Can weather radar improve the bathing quality in a harbor?**

Rasmussen, M. R., Nielsen, J. E., Ahm, M. & Thorndahl, S. L., 2017, *2017 International Symposium Weather Radar and Hydrology*. Seoul: Korea Institute of Civil Engineering and Building Technology, Korea University, p. 128

**Combining high resolution X-band and long range C-band measurements for radar nowcasting**

Nielsen, J. E., Thorndahl, S. L., Ahm, M. & Rasmussen, M. R., 2017, *2017 International Symposium Weather Radar and Hydrology*. Seoul: Korea Institute of Civil Engineering and Building Technology, Korea University, p. 215

**Controlling the hydraulic impact of discharge from storm water detention ponds into streams**

Thomsen, A. T. H., Moeslund, T. B., Jensen, G. P., Nielsen, J. E., Pedersen, M. L. & Rasmussen, M. R., 2017, *Conference Proceedings: 14th IWA/IAHR International Conference on Urban Drainage*. IWA/IAHR International Conference on Urban Drainage, p. 821-824 ICUD-0364

**Field station to quantify overland runoff from urban green areas**

Nielsen, K., Duus, L. B., Møldrup, P., Thorndahl, S. L., Rasmussen, S. H., Uggerby, M. & Rasmussen, M. R., 2017, *Conference Proceedings: 14th IWA/IAHR International Conference on Urban Drainage*. IWA/IAHR International Conference on Urban Drainage, p. 35-38 ICUD-0061

**Forudsigelse af nedbør til hydrologiske prognoser**

Sass, B. H., Petersen, C., Gill, R., Bøvith, T., Jensen, D. G. & Rasmussen, M. R., 2017, In: *Vand & Jord*. 24, 2, p. 44-47

**Hydrologisk realtids monitoring og prognoser - muligheder og udfordringer**

Madsen, H., Refsgaard, J. C., Jensen, K. H., Rasmussen, M. R., Sass, B. H., Heemink, A., Hvid, S. K., Jørgensen, A. & Lassen, J., 2017, In: *Vand & Jord*. 24, 2, p. 62-64

**Rainfall measurement based on in-situ storm drainage flow sensors**

Ahm, M. & Rasmussen, M. R., 2017, In: *Urban Water Journal*. 14, 1, p. 23-33

**Rain gauge and weather radar representativeness of areal rainfall estimates over a small-scale urban catchment**

Ahm, M., Nielsen, J. E., Thorndahl, S. L. & Rasmussen, M. R., 2017, *2017 International Symposium Weather Radar and Hydrology*. Seoul: Korea Institute of Civil Engineering and Building Technology, Korea University, p. 96-97

**Scenario based risk assessment of the dispersion of E-coli from combined sewer overflow to a fresh-water lake**

Rasmussen, M. R., Thorndahl, S. L., Nielsen, J. E., Bastholm, S. & Starcke, S., 2017, *Conference Proceedings: 14th IWA/IAHR International Conference on Urban Drainage*. IWA/IAHR International Conference on Urban Drainage, p. 2366-2369 ICUD-0530

**Towards rainfall statistics from radar rainfall records for use in urban hydrology**

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**Weather Radar Adjustment Using Runoff from Urban Surfaces**

Ahm, M. & Rasmussen, M. R., 2017, In: *Journal of Hydrologic Engineering*. 22, 5

**Weather radar rainfall data in urban hydrology**

Thorndahl, S. L., Einfalt, T., Willems, P., Nielsen, J. E., ten Veldhuis, M-C., Arnbjerg-Nielsen, K., Rasmussen, M. R. & Molnar, P., 2017, In: *Hydrology and Earth System Sciences*. 21, 3, p. 1359-1380 22 p.

**Weather radar rainfall for design of urban storm water systems**

Thorndahl, S. L., Wright, D. B., Nielsen, J. E. & Rasmussen, M. R., 2017, *Conference Proceedings: 14th IWA/IAHR International Conference on Urban Drainage*. IWA/IAHR International Conference on Urban Drainage, p. 178-181 ICUD-0471

**Estimation of combined sewer overflow discharge: a software sensor approach based on local water level measurements**  
Ahm, M., Thorndahl, S. L., Nielsen, J. E. & Rasmussen, M. R., 2016, In: *Water Science and Technology*. 74, 11, p. 2683-2696 14 p.

**Kathrinebjerg: Supplement til vindklima undersøgelse**

Rasmussen, M. R. & Nielsen, J. E., 2016, Aalborg: Aalborg Universitet, Institut for Byggeri og Anlæg. 21 p. (DCE Technical reports; No. 192).

**Sammenligning af disdrometerobservationer og Spildevandskomiteens regnmålersystem**

Nielsen, J. E., Thorndahl, S. L. & Rasmussen, M. R., 2016, Aalborg: Aalborg Universitet, Institut for Byggeri og Anlæg. 23 p. (DCE Technical reports; No. 200).

**Tema 1: BEWARE – Danmarks største regnmåler**

Nielsen, J. E., Ahm, M. & Rasmussen, M. R., 2016, *Drift af Spildevandskomitéens Regnmålersystem: Årsnotat 2015*. Thomsen, R. S. (ed.). København: DMI, p. 36-41 6 p. (DMI Report; No. 03, Vol. 16).

**Analysis of one decade of heavy rainfall events from a radar rainfall dataset**

Thorndahl, S. L., Nielsen, J. E., Rasmussen, M. R. & Smith, J. A., 2015, *Rainfall in urban and natural systems: Proceedings of the 10th International Workshop on Precipitation in Urban Areas (UrbanRain15)*. Molnar, P. & Peleg, N. (eds.). Zürich: ETH-Zürich, Institute of Environmental Engineering , p. 238-239 2 p. UR15-79

**Assimilation of radar-based nowcast into HIRLAM NWP model**

Jensen, D. G., Petersen, C. & Rasmussen, M. R., 2015, In: *Meteorological Applications*. 22, 3, p. 485-494 10 p.

**Can we predict the next urban flood? A case study of rain nowcasting and real-time flood simulation**

Thorndahl, S., Nielsen, J. E., Jensen, D. G., Thomas Lautrup Jepsen, M., Kjærgaard Laursen, M. & Rasmussen, M. R., 2015, *Proceedings of the 10th International Conference on Urban Drainage Modelling*. Maere, T., Tik, S., S. D. & Vanrolleghem, P. A. (eds.). Québec: 10th International Urban Drainage Modelling Conference, p. 85-95 11 p.

**GLUE Based Marine X-Band Weather Radar Data Calibration and Uncertainty Estimation**

Nielsen, J. E., Beven, K., Thorndahl, S. L. & Rasmussen, M. R., 2015, In: *Urban Water Journal*. 12, 4, p. 283-294 12 p.

**Intercomparison of rainfall measurements from three different types of weather radars covering the same urban area**

Nielsen, J. E., Thorndahl, S. L. & Rasmussen, M. R., 2015, *Rainfall in urban and natural systems: Proceedings of the 10th International Workshop on Precipitation in Urban Areas (UrbanRain15)*. Molnar, P. & Peleg, N. (eds.). Zürich: ETH-Zürich, Institute of Environmental Engineering , p. 143-144 2 p. UR15-47

**On Hydraulic and Pollution Effects of Converting Combined Sewer Catchments to Separate Sewer Catchments**

Thorndahl, S. L., Schaarup-Jensen, K. & Rasmussen, M. R., 2015, In: *Urban Water Journal*. 12, 2, p. 120-130 11 p.

**A novel probabilistic method for uncertainty estimation in urban runoff nowcasting**

Jensen, D. G., Thorndahl, S. L. & Rasmussen, M. R., Apr 2014, *International Symposium Weather Radar and Hydrology*. MIRA Digital Publishing, 2 p.

**Weather radar adjustment using runoff from urban surfaces**

Ahm, M. & Rasmussen, M. R., Apr 2014, *International Symposium Weather Radar and Hydrology*. MIRA Digital Publishing , 10 p.

**A new settling velocity model to describe secondary sedimentation**

Ramin, E., Wágner, D. S., Yde, L., Binning, P. J., Rasmussen, M. R., Mikkelsen, P. S. & Plósz, B. G., 2014, In: *Water Research*. 66, p. 447-458 12 p.

**A Numerical Method to Generate High Temporal Resolution Precipitation Time Series by Combining Weather Radar Measurements with a Nowcast Model**

Nielsen, J. E., Thorndahl, S. L. & Rasmussen, M. R., 2014, In: Atmospheric Research. 138, March, p. 1-12 12 p.

**Bias adjustment and advection interpolation of long-term high resolution radar rainfall series**

Thorndahl, S. L., Nielsen, J. E. & Rasmussen, M. R., 2014, In: Journal of Hydrology. 508, 16, p. 214–226 13 p.

**Improving Weather Radar Precipitation Estimates by Combining two Types of Radars**

Nielsen, J. E., Thorndahl, S. L. & Rasmussen, M. R., 2014, In: Atmospheric Research. 139, March, p. 36–45 10 p.

**Probabilistic online runoff forecasting for urban catchments using inputs from rain gauges as well as statically and dynamically adjusted weather radar**

Löwe, R., Thorndahl, S. L., Mikkelsen, P. S., Rasmussen, M. R. & Madsen, H., 2014, In: Journal of Hydrology. 512, May, p. 397-407 11 p.

**Tillægsrapport til analyse vindklima ved Havnehusene**

Rasmussen, M. R. & Nielsen, J. E., 2014, Aalborg: Department of Civil Engineering, Aalborg University. 23 p. (DCE Technical reports; No. 163).

**Calibrating LAWR Weather Radar using Laser Disdrometers**

Nielsen, J. E., Jensen, N. E. & Rasmussen, M. R., 2013, In: Atmospheric Research. 122, March, p. 165-173 9 p.

**Comparison of short-term rainfall forecasts for modelbased flow prediction in urban drainage systems**

Thorndahl, S. L., Poulsen, T. S., Bøvith, T., Borup, M., Ahm, M., Nielsen, J. E., Grum, M., Rasmussen, M. R., Gill, R. & Mikkelsen, P. S., 2013, In: Water Science and Technology. 68, 2, p. 472-478 7 p.

**Development of Method for X-band Weather Radar Calibration**

Nielsen, J. E., Thorndahl, S. L. & Rasmussen, M. R., 2013, In: Journal of Hydroinformatics. 15, 4, p. 1326-1339 14 p.

**Estimating Subcatchment Runoff Coefficients using Weather Radar and a Downstream Runoff Sensor**

Ahm, M., Thorndahl, S. L., Rasmussen, M. R. & Bassø, L., 2013, In: Water Science and Technology. 68, 6, p. 1293-1299 7 p.

**Following a drop of water from the cloud, throughout the sewer system, into the receiving water: Model predictive control of integrated sewer-wastewater treatment systems**

Mikkelsen, P. S., Vezzaro, L., Sharma, A. K., Plósz, B. G., Rasmussen, M. R., Thorndahl, S. L., Gil, R., Löwe, R., Madsen, H., Grum, M., Gadegaard, T. N., Rungø, M., Lynggaard-Jensen, A., Thirsing, C., Bassø, L., Thyme, J., Petersen, H. & Thornberg, D. E., 2013, *Proceedings of 11th IWA conference on instrumentation control and automation*. Conference on Instrumentation Control and Automation

**Modelamiento de dos Fases (Agua-Aire) de un Bioreactor Con Membrana (MBR) Sumergida Mediante la Dinámica de Fluidos Computacional (CFD)**

Ratkovich, N. R., Bentzen, T. R. & Rasmussen, M. R., 2013, *VIII Congreso Ibero-Americano en Ciencias y Tecnología de Membranas*. Universidad Catolica del Maule, 2 p.

**Review and Comparison of Radar Rainfall Bias Adjustment Methods: applying a 10-year dataset from Denmark**

Thorndahl, S. L., Nielsen, J. E. & Rasmussen, M. R., 2013, *11th International Precipitation Conference 2013: Royal Netherlands Meteorological Institute (KNMI) and Hydrology and Quantitative Water Management Group, Wageningen University*. Leijnse, H. & Uijlenhoet, R. (eds.). Wageningen, Netherland: Wageningen University, p. 217 1 p.

**Review and Comparison of Radar Rainfall Bias Adjustment Methods: applying a 10-year dataset from Denmark**

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**Short-Term Forecasting of Urban Storm Water Runoff in Real-Time using Extrapolated Radar Rainfall Data**

Thorndahl, S. L. & Rasmussen, M. R., 2013, In: Journal of Hydroinformatics. 15, 3, p. 897–912 16 p.

**State-space adjustment of radar rainfall and skill score evaluation of stochastic volume forecasts in urban drainage systems**

Löwe, R., Mikkelsen, P. S., Rasmussen, M. R. & Madsen, H., 2013, In: *Water Science and Technology*. 68, 3, p. 584-590 7 p.

**State-space adjustment of radar rainfall and stochastic flow forecasting for use in real-time control of urban drainage systems**

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**Analyse vindklima ved Havnehusene**

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**Analytical and Numerical Modelling of Newtonian and non-Newtonian Liquid in a Rotational Cross-flow MBR**

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**Aspects of Applying Weather Radar-Based Nowcasts of Rainfall for Highways in Denmark**

Rasmussen, M. R., Thorndahl, S. L. & Quist, M., 2012, *Weather Radar and Hydrology*. Moore, R. J., Cole, S. J. & Illingworth, A. J. (eds.). Vol. 351. p. 330-335 6 p. (I A H S Proceedings and Reports).

**Comparison Of Short Term Rainfall Forecasts For Model Based Flow Prediction In Urban Drainage Systems**

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**Desarrollo de un Modelo Reológico de Lodos Activados Para Bioreactores Con Membrana (MBR)**

Ratkovich, N. R., Bentzen, T. R., Moreau, A. A. & Rasmussen, M. R., 2012, *VIII Congreso Ibero-Americano en Ciencias y Tecnología de Membranas*. 2 p.

**Empirical Correlations and CFD Simulations of Vertical Two-Phase Gas-Liquid (Newtonian and Non-Newtonian) Flow Compared Against Experimental Data of Void Fraction and Pressure Drop**

Ratkovich, N. R., Bentzen, T. R., Majumder, S. K. & Rasmussen, M. R., 2012, *3rd EBCEM - Brazilian Meeting on Multiphase Flow and Phase Change Heat Transfer*. 22 p.

**Energy Consumption in Terms of Shear Stress for Two Types of Membrane Bioreactors used for Municipal Wastewater Treatment Processes**

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**Estimating Runoff Coefficients Using Weather Radars**

Ahm, M., Thorndahl, S. L., Rasmussen, M. R. & Bassø, L., 2012, *Urban Drainage Modelling: Proceedings of the Ninth International Conference on Urban Drainage Modelling*. Prodanović, D. & Plavšić, J. (eds.). Faculty of Civil Engineering, University of Belgrade, 13 p.

**Evaluering af ny processeringsmetode til LAWR**

Nielsen, J. E., Thorndahl, S. L. & Rasmussen, M. R., 2012, Aalborg: Department of Civil Engineering, Aalborg University. 40 p. (DCE Technical reports; No. 149).

**Experimental and CFD Simulations of Vertical Two-Phase Slug Flow for Gas-Newtonian and Non-Newtonian Liquids**

Ratkovich, N. R., Bentzen, T. R., Majumder, S. & Rasmussen, M. R., 2012. 2 p.

**Experimental and CFD Simulation Studies of Wall Shear Stress for Different Impeller Configurations and MBR Activated Sludge**

Ratkovich, N. R., Chan, C. C. V., Bentzen, T. R. & Rasmussen, M. R., 2012, In: *Water Science and Technology*. 65, 11, p. 2061–2070 10 p.

**Marine X-band Weather Radar Data Calibration**

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**On Comparing NWP and Radar Nowcast Models for Forecasting of Urban Runoff**

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**Using Weather Radar to Optimise Operation of an Urban Drainage System with Distributed Rainwater Storage**

Rasmussen, M. R., Thorndahl, S. L., Bentzen, T. R., Nielsen, J. E. & Selc, T., 2012, *Urban Drainage Modelling: Proceedings of the Ninth International Conference on Urban Drainage Modelling*. Prodanović, D. & Plavšić, J. (eds.). Faculty of Civil Engineering, University of Belgrade, 11 p.

**What is a Proper Resolution of Weather Radar Precipitation Estimates for Urban Drainage Modelling?**

Nielsen, J. E., Rasmussen, M. R. & Thorndahl, S. L., 2012, *International Symposium on Weather Radar and Hydrology*. Exeter: IAHS Press, Vol. 351. p. 601-606 6 p. (IAHS Publications Series (Red Books)).

**Aspects of Applying Weather Radar Based Nowcast for Highways in Denmark**

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**Computational Fluid Dynamics of Two MBR Configurations**

Bentzen, T. R., Ratkovich, N. R. & Rasmussen, M. R., 2011, *AMTA/SEDA 2011 Joint Conference & Exposition "Membranes are the Solution": Book of Abstracts*. 1 p.

**Computational Fluid Dynamics of Two MBR Configurations**

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**Energy Consumption in Terms of Shear Stress for Two Types of Membrane Bioreactors Used for Municipal Wastewater Treatment Processes**

Ratkovich, N. R., Bentzen, T. R., Bérube, P. R., Heinen, N. & Rasmussen, M. R., 2011, *HEAT 2011: The Sixth International Conference on Transport Phenomena in Multiphase Systems : Conference Proceedings*. Polish Society of Mechanical Engineers and Technicians, p. 155-162 8 p.

**Energy Consumption Related to Shear Stress For Membrane Bioreactors Used For Wastewater Treatment**

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**Energy Consumption Related to Shear Stress for Membrane Bioreactors Used for Wastewater Treatment**

Ratkovich, N. R., Bentzen, T. R., Bérube, P. R., Heinen, N. & Rasmussen, M. R., 2011, *Book of Proceedings: 24th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems*. University of Niš, Faculty of Mechanical Engineering, Niš , p. 2195-2206 12 p.

**Energy Efficient Aeration in a Single Low Pressure Hollow Sheet Membrane Filtration Module**

Bentzen, T. R., Ratkovich, N. R., Rasmussen, M. R. & Heinen, N., 2011. 1 p.

**Energy Efficient Aeration in a Single Low Pressure Hollow Sheet Membrane Filtration Module**

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**Energy Efficient Aeration in a Single Low Pressure Hollow Sheet Membrane Filtration Module**

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## **Activities**

### **Department of the Built Environment (Organisational unit)**

Michael R. Rasmussen (Chairperson)

1 Jan 2020

### **Dryp A/S (External organisation)**

Michael R. Rasmussen (Chairperson)

2020

### **12th International Conference on Urban Drainage**

Michael R. Rasmussen (Speaker)

18 Apr 2011 → 21 Apr 2011

### **International Symposium on Weather Radar and Hydrology**

Michael R. Rasmussen (Speaker)

18 Apr 2011 → 21 Apr 2011

### **The International Congress on Advances in Civil Engineering**

Michael R. Rasmussen (Speaker)

15 Sept 2008 → 17 Sept 2008

### **Forskningens Dag 2008**

Michael R. Rasmussen (Speaker)

8 Jan 2008

### **Forskningens Dag : Institut for Byggeri og Anlæg**

Michael R. Rasmussen (Speaker)

9 Jan 2007

### **Vandløbsadministration : Undersøgelser i Gravlev Ådal - Lindenberg Å**

Michael R. Rasmussen (Speaker)

4 Apr 2006 → 5 Apr 2006

### **Nyhedsbrev : Aalborg Vejr radar Nyhedsbrev (Journal)**

Michael R. Rasmussen (Editor)

8 Sept 2005

### **The Faculty of Engineering and Science (Organisational unit)**

Michael R. Rasmussen (Chairperson)

1 Jan 2005

## **Press/Media**

### **70 procent mere regn i Nordjylland end normalt**

Michael R. Rasmussen

19/01/2007

1 item of Media coverage

**Badevand i centrum bedst tjekket**

Michael R. Rasmussen

26/08/2011

1 item of Media coverage

**Bedre målinger af kloakoverløb på vej**

Michael R. Rasmussen

29/08/2019

2 items of Media coverage

**Bedre syn på stranden**

Michael R. Rasmussen & Jesper Ellerbæk Nielsen

18/07/2009

1 item of Media coverage

**Danskudviklet radar skal forhindre drukneulykker på stranden**

Michael R. Rasmussen

21/07/2009

3 items of Media coverage

**DANVAs bestyrelse har godkendt uddeling af VUDP-midler for 2017**

Michael Robdrup Rasmussen

06/10/2017

1 item of Media coverage

**Debat: Vi kan hænge fremtidens skybrud til tørre**

Michael R. Rasmussen

17/03/2023

1 item of Media coverage

**DF i kamp mod stigende grundvand**

Michael R. Rasmussen

23/07/2007

1 item of Media coverage

**En trend til gavn for miljø og økonomi**

Michael R. Rasmussen

23/09/2008

1 item of Media coverage

**Fakta om overløb**

Michael R. Rasmussen

04/02/2021

1 item of Media coverage

**Farvekoder på rør kan forebygge ekskrementer i badevandet**

Michael Robdrup Rasmussen

23/03/2018

1 item of Media coverage

**Farvekoder på rør kan forebygge ekskrementer i badevandet**

Michael Robdrup Rasmussen

05/04/2018

1 item of Media coverage



**Flere steder i Nordjylland kæmper med vådt vejr**

Michael R. Rasmussen

28/02/2020

1 item of Media coverage

**Forsker: Landmænd skal begynde at se sig om efter nye afgrøder**

Michael Robdrup Rasmussen

09/08/2017

2 items of Media coverage

**Fra drømmehus til vådt mareridt: - Jeg frygter for mine børns ve og vel**

Michael R. Rasmussen

01/07/2021 → 03/07/2021

3 items of Media coverage

**Hollandsk model mod oversvømmede kældre**

Michael R. Rasmussen

23/07/2007

1 item of Media coverage

**Husk disse regler, når du bygger nyt**

Michael R. Rasmussen

09/06/2020 → 12/06/2020

2 items of Media coverage

**Hvidovre vil advare borgerne om oversvømmelse med SMS**

Michael R. Rasmussen

06/12/2007

1 item of Media coverage

**Højt Scala-byggeri går mod vinden**

Michael R. Rasmussen

18/02/2013

1 item of Media coverage

**Intelligent teknologi forbedrer vandmiljøet**

Michael Robdrup Rasmussen

14/11/2018

1 item of Media coverage

**Intelligent vejr-varslingssystem på vej**

Michael R. Rasmussen

22/08/2008

1 item of Media coverage

**Kan koste dig dyrt: Husk disse regler når du bygger nyt**

Michael R. Rasmussen

12/05/2020 → 17/05/2020

6 items of Media coverage

**Kan koste dyrt: Har du styr på disse boligregler?**

Michael R. Rasmussen

18/05/2020 → 20/05/2020

4 items of Media coverage

**Klimabassin skal få tjek på regnvandet**

Michael R. Rasmussen

22/05/2019

3 items of Media coverage

**Kloaker vil bryde sammen**

Michael R. Rasmussen

30/12/2014

3 items of Media coverage

**Kommuner skal tage ansvar for grundvandet**

Michael R. Rasmussen

23/07/2007

1 item of Media coverage

**Miljøudvalgsformand: "Vi bader jo i lort"**

Michael R. Rasmussen

29/08/2019

1 item of Media coverage

**Modeller for klimatilpasning passer**

Michael R. Rasmussen

17/09/2019

1 item of Media coverage

**Monsterregnskyl ødelægger uåbnet kæmpevej i Vejle**

Michael R. Rasmussen

28/09/2023 → 29/09/2023

5 items of Media coverage

**Naviger uden om boliger med oversvømmelsesrisiko**

Michael R. Rasmussen

25/03/2020

4 items of Media coverage

**Naviger uden om boliger med oversvømmelsesrisiko**

Michael R. Rasmussen

02/04/2020 → 06/04/2020

2 items of Media coverage

**Naviger uden om boliger med oversvømmelsesrisiko**

Michael R. Rasmussen

24/04/2020

1 item of Media coverage

**"Nu går den ikke længere": Helles vej er oversvømmet på tredje måned**

Michael R. Rasmussen

10/05/2024

10 items of Media coverage

**Nye investeringer og fuld udnyttelse af eksisterende systemer**

Michael R. Rasmussen

14/10/2010

1 item of Media coverage

**Ny måde at bruge vejradardata på**

Michael R. Rasmussen

12/08/2021

1 item of Media coverage

**Ny radar i Aalborg mod oversvømmelser**

Michael R. Rasmussen

23/03/2006

1 item of Media coverage

**Ny rapport: Billigere end antaget at måle og bremse kloakoverløb**

Michael R. Rasmussen

07/09/2020 → 10/09/2020

5 items of Media coverage

**Opfinder fordobler salget**

Michael R. Rasmussen

05/01/2021

5 items of Media coverage

**Opfinder: Om to år har vi 10-doblet salget**

Michael R. Rasmussen

28/12/2019

2 items of Media coverage

**Overløb er en sikkerhedsventil**

Michael R. Rasmussen

05/11/2020 → 07/11/2020

4 items of Media coverage

**Pluk**

Michael R. Rasmussen

09/05/2022

1 item of Media coverage

**Professor: Boliger ved vandet er de mest attraktive - men det koster**

Michael R. Rasmussen

03/03/2022 → 07/03/2022

4 items of Media coverage

**Radar kan redde badegæsters liv**

Michael R. Rasmussen

31/07/2008

1 item of Media coverage

**Regnradar skal forudsige skybrud**

Michael R. Rasmussen

12/09/2014

4 items of Media coverage

**Sensorer forbedrer vandmiljø**

Michael Robdrup Rasmussen

02/05/2018

1 item of Media coverage

**Store kræfter på spil**

Michael R. Rasmussen

11/10/2009

1 item of Media coverage

**Stormflod på vej igen**

Michael Robdrup Rasmussen

08/01/2019

1 item of Media coverage

**Succesfuld jagt på kloakfejl**

Michael Robdrup Rasmussen

16/04/2017

3 items of Media coverage

**Tordenjægerne og vejrradaren**

Michael R. Rasmussen

23/03/2006

1 Media contribution

**Tusinder får miljøsmæk**

Michael R. Rasmussen

13/10/2014

1 item of Media coverage

**Urbane vinde plager bygning**

Michael R. Rasmussen

20/05/2010

1 item of Media coverage

**Vandkoncern bag nyt skybrudskort**

Michael R. Rasmussen

14/12/2016

2 items of Media coverage

**Vejrradar giver viden om regn**

Michael R. Rasmussen

29/03/2006

1 item of Media coverage

**Vejrradar til Hvidovre**

Michael R. Rasmussen

07/12/2007

1 item of Media coverage

**Villum Fonden støtter 8 tværfaglige projekter i nyt program**

Katja Hose, Mads Albertsen, Huai Wang, Bin Yang, Kim Guldstrand Larsen & Michael R. Rasmussen

29/03/2020

1 item of Media coverage

**Villum Fonden støtter otte projekter med i alt 52,5 mio. kr.**

Kim Guldstrand Larsen, Michael R. Rasmussen, Katja Hose, Mads Albertsen, Huai Wang & Bin Yang

07/05/2020

1 item of Media coverage

**Vi må leve med oversvømmelser**

Michael R. Rasmussen

29/01/2015

1 item of Media coverage

**Vi må vænne os til regnen**

Michael R. Rasmussen

19/01/2007

1 item of Media coverage

**Vinden smadrer vinduer**

Michael R. Rasmussen

20/05/2010

5 items of Media coverage

**Vi skal blive bedre til at håndtere store regnmængder**

Michael R. Rasmussen

06/12/2013

1 item of Media coverage

**Vi skal regne om igen i et vigtigt klimaregnestykke**

Michael R. Rasmussen

05/09/2019

2 items of Media coverage

**VUDP: 10 millioner til udviklingsprojekter**

Michael R. Rasmussen

14/12/2023

1 item of Media coverage

**Øget sommerhusaktivitet kan skade miljøet**

Michael R. Rasmussen

24/12/2015

1 item of Media coverage

**Aalbor**

Michael R. Rasmussen

21/05/2019

1 item of Media coverage

**Aalborg-forsker: Afgørende at prioritere kloaksystemsindsats**

Michael R. Rasmussen

01/12/2020

1 item of Media coverage

**Aalborgs nye havnebad åbner med forsinkelse**

Michael R. Rasmussen

01/07/2011

2 items of Media coverage

**AAU og Aalborg Kommune skal studere vejret**

Michael R. Rasmussen

23/03/2006

1 item of Media coverage

## Projects

### **Accumulation of Pollutants In Highway Detention Ponds**

Bentzen, T. R., Larsen, T. & Rasmussen, M. R.

<ingen navn>

21/08/2005 → 30/10/2008

### **CFD optimering af hydrodynamisk funktion i et ATS renseanlæg med**

Rasmussen, M. R. & Laursen, J.

01/09/2004 → ...

### **Combining C-band and X-band weather radars for accurate precipitation measurements over urban areas**

Nielsen, J. E. & Rasmussen, M. R.

01/07/2009 → 29/06/2012

### **Eksperimentel og numerisk undersøgelse af energiforhold i Søholt Renseanlæg / Experimental and Numerical Evaluation of the Energy Distribution in Søholt Wastewater Treatment Plant**

Rasmussen, M. R.

31/12/2003 → 31/12/2003

### **Hydrodynamisk analyse af opdræts tanke til pighvar / Hydrodynamic Analysis of Turbot Rearing Tanks**

Rasmussen, M. R.

19/05/2010 → ...

### **Measurement and Modelling of 3-Dimensional Multi Phase Flow in Wastewater Treatment Plant Process- and Sedimentation Tanks.**

Rasmussen, M. R. & Laursen, J.

19/05/2010 → ...

### **MEMBIO - Danish Membrane Bioreactor Technology**

Bentzen, T. R. & Rasmussen, M. R.

Danish Ministry of Science, Technology and Innovation

19/05/2010 → ...

### **Modellering af frigivelse af insulin og proteiner fra hydrogeler / Numerical Modelling of Combined Hydrodynamic and Biological Processes in Wastewater Treatment Plants**

Rasmussen, M. R.

19/05/2010 → ...

### **Modellering og måling af hydrodynamik og processer i renseanlæg / Modelling and Measurements of Hydrodynamics and Processes in Sewer Treatment Plants**

Larsen, T. & Rasmussen, M. R.

31/12/2003 → 31/12/2003

### **Numerisk modellering af efterklaringsstanke i renseanlæg / Numerical Modelling of Secondary Clarifiers in Sewage Treatment Plants**

Rasmussen, M. R. & Larsen, T.

19/05/2010 → ...

### **Optimering af energiforhold i dambrug med runde produktionstanke / Optimization of Energy Conditions in Aquaculture Facilities with Round Rearing Tanks**

Rasmussen, M. R.

31/12/2003 → 31/12/2003

### **Optimering af slutrensning i akvakultur**

Riis-Vestergaard, J., Skjølstrup, J., Frier, J., Grønborg, O., Rasmussen, M. R. & Laursen, J.  
01/12/2001 → 01/12/2004

### **Optimering af tømmeproces i sedimentationskegler i ferksvandsdambrug.**

Laursen, J. & Rasmussen, M. R.  
19/05/2010 → ...

### **Overløb fra fællesloak - Hvordan måles det - og Hvorfor?**

Bassø, L., Rasmussen, M. R., Nielsen, J. E., Thorndahl, S. L., Mikkelsen, P. S., Sharma, A. K., Rungø, M., Grum, M., Gadegaard, T. & Ahm, M. K. S.  
01/01/2013 → 01/12/2014

### **Oxygen depletion from submerged fields in Gravlev (Lindenberg River)**

Frier, J., Rasmussen, M. R. & Iversen, N.  
LIFE  
19/05/2010 → ...

### **RADIATE: Radarprognoser til vandsektoren**

Nielsen, J. M., Nielsen, J. E. & Rasmussen, M. R.  
01/01/2021 → 01/11/2023

### **Sealing Material of Groundwater Wells**

Köser, C., Rasmussen, M. R., Andersen, L. V. & Thøgersen, L.  
VIA University College  
01/06/2008 → 18/11/2011

### **Sediment Transport in Sewer Systems**

Rasmussen, M. R., Schaarup-Jensen, K. & Larsen, T.  
19/05/2010 → ...

### **Stoftilbageholdelse i regnvandsbassiner / Solids Removal in Detention Basins**

Rasmussen, M. R. & Larsen, T.  
19/05/2010 → ...

### **Storm- and Wastewater Informatics**

Henze, M., Mikkelsen, P. S., Adeler, O. F., Mark, O., Grum, M., Neergaard Jacobsen, B., Johansen, N. B., Rasmussen, M. R. & Ahm, M. K. S.  
Det Strategiske Forskningsråds programkomite for Energi og Miljø  
01/04/2008 → 31/03/2011

### **The Sewer Research and Monitoring Station in Frejlev**

Thorndahl, S. L. & Rasmussen, M. R.  
19/05/2010 → ...

### **Tyngdeflyderen / Tyngdeflyderen**

Rasmussen, M. R. & Frigaard, P.  
31/12/2003 → 31/12/2003

### **Using in-sewer sensors for accurate weather radar adjustment**

Larsen, J. B., Rasmussen, M. R., Grum, M. & Gill, R.  
01/07/2009 → 29/06/2012

### **Weather Radar Nowcasting for Urban Drainage Applications**

Nielsen, J. M., Nielsen, J. E. & Rasmussen, M. R.  
01/12/2021 → 01/12/2024

**WWTP Process Tank Modelling: The Integration of Advanced Hydrodynamic and Microbiological Models**

Laursen, J. & Rasmussen, M. R.

<ingen navn>

01/09/2002 → 14/09/2007