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Civil and Environmental Engineering

FROM THE CHAIR / May 2019

Dear colleagues and friends,

As the academic year draws to a close, I want to take this opportunity to sing the praises of my colleagues. CEE is embarking on a strategy to embrace systems thinking in our research and teaching, and I think you will see this reflected in the stories below. We also welcome Alessandro Rotta Loria, our newest assistant professor, who studies urban and energy systems from a geomechanics perspective.

I trust that you will enjoy learning about the exciting and surprising accomplishments of CEE faculty and students. Although in Evanston we are still waiting for spring, I wish everyone a wonderful summer.



**Kimberly Gray**

Kay Davis Professor and  
Chair of Civil and Environmental Engineering  
McCormick School of Engineering

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**New CEE Graphic Describes Systems Thinking**



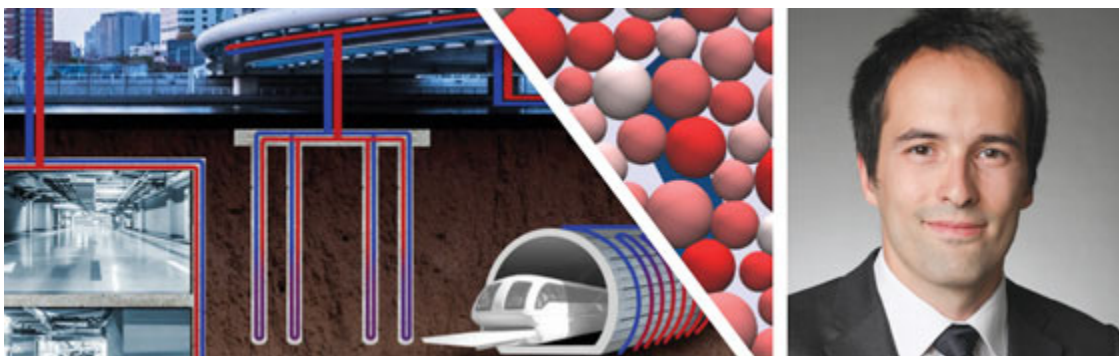


The department has just completed our strategic plan for the next five years, and from this process emerged ways to think about our research and teaching more collectively. Our work is inspired by many innovations, by technological challenges, and by societal needs. CEE is transitioning from operating from the traditional silos of solid mechanics and structures, geotechnics, transportation, and environmental engineering to addressing systems challenges with systems thinking, as illustrated in our new graphic.

[Read about the graphic »](#)

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## Department of Civil and Environmental Engineering Welcomes Professor Alessandro Rotta Loria



An expert on geomaterials and structural systems, **Alessandro Rotta Loria** joined the department in April as an assistant professor from the Swiss Federal Institute of Technology (EPFL). Working within his Mechanics and Energy Laboratory, he hopes to develop unprecedented competence in using the subsurface as a spatial, material, and resourceful medium for the sustainability and development of human activity.

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[Read about Rotta Loria »](#)

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## Climate Change's Effects on the Great Lakes



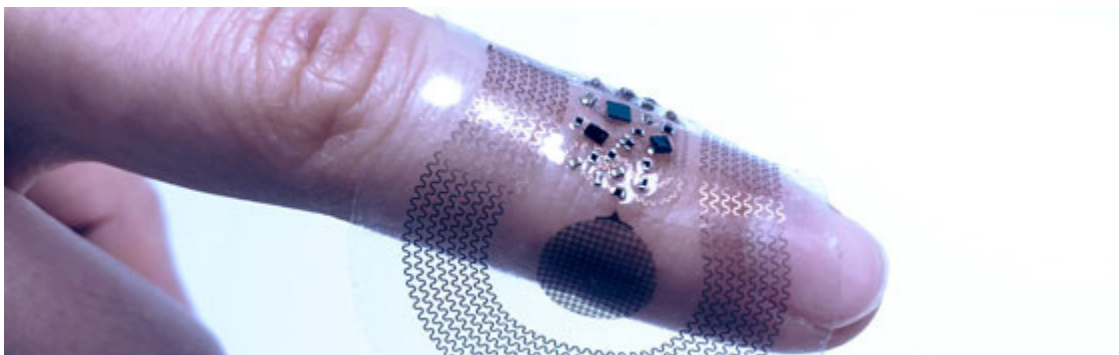
From extreme weather to agricultural losses, climate change stands to impact millions of people who rely on the Great Lakes for drinking water, jobs, and recreation, according to a recent report published by Professor **Aaron Packman** and other leading climate scientists and experts.

As director of Northwestern University's Center for Water Research, Packman is working with an interdisciplinary team to combine science and engineering to more accurately predict these extreme events — and inform sustainable and adaptive infrastructure changes.

[Read about the report »](#)

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## Sensors are First to Monitor Babies in the NICU Without Wires



Professor **Yonggang Huang** worked as part of an interdisciplinary team to design the soft, flexible sensors, which provide clinical-grade measurements and allow physical bonding between baby and parent.

[Read about the work »](#)

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## ASCE Awards Sinan Keten Huber Research Prize



One of four recipients of the award nationwide, Professor **Sinan Keten** was recognized for his contributions to understanding the mechanical behavior of structural materials and establishing novel simulation techniques for characterizing the nanomechanics of polymer nanocomposites.

[Read about the award »](#)

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## Student Competition ‘Sparks’ Innovative Solutions to Industry Issues



On March 1, under the guidance of Professor **Karen Chou**, eight undergraduate students from civil and environmental engineering and mechanical engineering took part in SPARK, an industry competition where interdisciplinary student teams develop solutions to real-world problem statements.

Students Katrin Chandra and Christopher Lee and their team earned first place at the competition for designing an innovative water purification process for a chemical manufacturing plant.

[Read about the competition »](#)



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