MEMORANDUM

March 21, 2018

To:      Members of the Board of Trustees
From:    Kristina M. Johnson, Chancellor
Subject: Appointment of Dr. Tod Laursen as Senior Vice Chancellor and Provost of the State University of New York

Action Requested

The proposed resolution approves the appointment of Dr. Tod Laursen as Senior Vice Chancellor and Provost of the State University of New York.

Resolution

I recommend that the Board of Trustees adopt the following resolution:

Resolved that the appointment of Dr. Tod Laursen as Senior Vice Chancellor and Provost of the State University of New York, effective on or about September 1, 2018 be, and hereby is, approved. Dr. Laursen will receive a salary of $363,025 per year, and a $3,300 per month housing allowance.

Background

I am pleased to recommend for your approval the appointment of Dr. Tod Laursen as Senior Vice Chancellor and Provost of the State University of New York, effective on or about September 1, 2018. Dr. Laursen served as the President of Khalifa University of Science, Technology and Research (KUSTAR) in Abu Dhabi, United Arab Emirates from 2010-2017. He currently serves as the Interim President of Khalifa University of Science and Technology (KU) after the merger of KUSTAR, the Masdar Institute and the Petroleum Institute in February 2017.
Members of my Executive Leadership Team and I, as well as the representative search committee that I impaneled for this position, had numerous opportunities to meet with Dr. Laursen to discuss the future of the SUNY System and his ideas for the Senior Vice Chancellor and Provost position. I am confident he is the right person for this important job.

Prior to his service at Khalifa University, Dr. Laursen was a member of the faculty of Duke University, between the years of 1992 and 2010, during which time he had appointments in civil engineering, biomedical engineering, and mechanical engineering. He served as Chair of the Department of Mechanical Engineering and Materials Science from 2008-2010, and served as Senior Associate Dean for Education in the Pratt School of Engineering from 2003-2008. In the latter capacity, he had oversight responsibility for all undergraduate and graduate engineering programs at Duke.

Dr. Laursen specializes in computational mechanics, a subfield of engineering mechanics concerned with the development of new computational algorithms and tools used by engineers to analyze mechanical and structural systems. He has published over 100 refereed articles, book chapters, and abstracts, and has authored or co-edited two books. His particular focus is development of methods to analyze contact, impact and frictional phenomena, in highly nonlinear and complex systems.

He is a Fellow of the American Society of Mechanical Engineers, the International Association of Computational Mechanics, and the United States Association for Computational Mechanics. He also holds memberships in the American Society for Engineering Education and Tau Beta Pi. He served as an at-large member of the Executive Committee for the United States Association for Computational Mechanics between 2007 and 2010, and currently services as a member of the Executive Council of the International Association for Computational Mechanics (until 2020). Additionally, he has served on the scientific advisory committees of several of the most important national and international congresses in computational mechanics.

Dr. Laursen earned his Ph.D. and M.S. postgraduate degrees in Mechanical Engineering from Stanford University and a B.S. in the same subject from Oregon State University.

A copy of Dr. Laursen’s curriculum vitae is attached.

Attachment
TOD A. LAURSEN
President and Professor
Khalifa University
Abu Dhabi, United Arab Emirates

SUMMARY

Tod A. Laursen is trained as a mechanical engineer, and his scholarly area of research is computational mechanics. He has made particular contributions to prediction tools that engineers and scientists use in the analysis of mechanical contact, impact, and friction, and is a fellow of the American Society of Mechanical Engineers (ASME), the United States Association for Computational Mechanics (USACM) and the International Association for Computational Mechanics (IACM). His academic career has included appointments in three fields of engineering (mechanical, civil and biomedical), while his administrative experience includes terms as a university president, senior associate dean for education, and department chair.

SIGNIFICANT ADMINISTRATIVE APPOINTMENTS

2017– Interim President, Khalifa University of Science & Technology (KU)

* After merger of KUSTAR, Masdar Institute and Petroleum Institute was announced by the Abu Dhabi Government in February of 2017, was appointed by newly named board in March 2017 to lead the integration phase of Khalifa University of Science & Technology, to be formed from the three predecessor institutions.

2010–2017 President, Khalifa University of Science, Technology and Research (KUSTAR)

* Appointed after an international search to lead Khalifa University, a new research university in Abu Dhabi, United Arab Emirates. Khalifa is an independent public university owned and supported by the government of Abu Dhabi, and was founded by Royal Decree in February of 2007. It is focused on science and technology and has the primary goal of aiding the
UAE’s transition to a diverse, knowledge-driven economy through its educational and research programs.

2008–2010 Chair, Department of Mechanical Engineering and Materials Science, Duke University

* Led department with 24 regular rank faculty members, approximately 60 graduate students and about 250 undergraduate mechanical engineering majors, with sponsored research of approximately $6M/year.

2003–2008 Senior Associate Dean for Education, Pratt School of Engineering, Duke University

* Had leadership and coordination responsibilities concerned with all engineering education programs at Duke University, including approximately 1100 undergraduate engineers and 600 graduate students. Led several major curriculum enhancements, including redesign of the core mathematics and physics requirements for engineers, establishment of first year design alternatives for incoming students, and overhaul of the first year engineering computation requirement. Led reformulation of graduate student recruitment and fellowship arrangements in engineering during this period.

OTHER PROFESSIONAL EXPERIENCE

2010– Professor of Mechanical Engineering, Khalifa University of Science, Technology and Research, Abu Dhabi, United Arab Emirates

2008–2010 Professor, Department of Mechanical Engineering and Materials Science, Duke University (secondary appointments in Civil and Environmental Engineering, Biomedical Engineering)

2003–2008 Professor of Civil and Environmental Engineering, Duke University (secondary appointments in Mechanical Engineering and Materials Science, Biomedical Engineering)

1999–2003 Yoh Family Associate Professor of Civil and Environmental Engineering, Duke University (secondary appointments in Mechanical Engineering and Materials Science, Biomedical Engineering)

2001–2003 Director of Undergraduate Studies, Department of Civil and Environmental Engineering, Duke University

2001 Faculty Sabbatical Employee, Sandia National Laboratories

1998–1999 Associate Professor of Civil and Environmental Engineering, Duke University (secondary appointment in Mechanical Engineering and Materials Science)

1998–2000 Director of Graduate Studies, Department of Civil and Environmental Engineering, Duke University
1992–1998 Assistant Professor of Civil Engineering, Duke University (secondary appointment in Mechanical Engineering and Materials Science)
1989–1992 Research Assistant, Stanford University
1986–1992 Engineer, Lawrence Livermore National Laboratory
1985 Summer Research Engineer, Boeing Commercial Airplane Company
1983–1984 Lab and Research Assistant, Oregon State University Forest Research Laboratory

EDUCATION

1992 Ph.D., Mechanical Engineering, Stanford University
   (emphasis in Applied Mechanics)
1989 M.S., Mechanical Engineering, Stanford University
1986 B.S., Mechanical Engineering, Oregon State University

EDITORSHIPS


PROFESSIONAL MEMBERSHIPS

* Fellow, United States Association for Computational Mechanics (elected 2013)
* Fellow, International Association for Computational Mechanics (elected 2010)
* Fellow, American Society of Mechanical Engineers (elected 2008)
* Member, American Society for Engineering Education
* Member, Tau Beta Pi, The National Engineering Honor Society
* Member, Pi Tau Sigma, National Honorary Mechanical Engineering Fraternity
HONORS & AWARDS

* Oregon State University Academy of Distinguished Engineers Award, 2010
* Yoh Family Endowed Chair, 1999–2003; Bass Fellow, Duke University, 1999–2010
* Oregon State University Council of Outstanding Early Career Engineers Award, 1998
* Hunt Faculty Scholar, Duke University School of Engineering, 1997–1998
* National Science Foundation CAREER Award, 1997
* Office of Naval Research Young Investigator Award, 1997
* The Earl I. Brown II Outstanding Civil Engineering Faculty Award, Duke University Department of Civil and Environmental Engineering, 1997
* National Science Foundation Research Initiation Award, 1993
* IBM Graduate Fellowship, Stanford University, 1988–1989
* Most Outstanding Senior Award, Oregon State University Department of Mechanical Engineering, 1986

PUBLICATIONS

Books


Refereed Journal Articles


**Book Chapters**


**Refereed Conference Papers**


Nontechnical Publications and Reviews


**Conference Abstracts**


**SELECTED NATIONAL AND INTERNATIONAL PRESENTATIONS**

(only presentations given by T.A. Laursen, not by coauthors, are listed)

**Technical Talks at Conferences**


“Recent Computational Advances in Contact and Friction Simulation as Applied to Tire Mechanics” (invited plenary lecture), 2014 Tire Society Conference, Akron, OH, September 8, 2014.

“Integral Representation of Contact Constraints as a Means to Robust and Accurate Representation of Interfacial Behavior in Large Deformation Mechanics” (invited semiplenary lecture), ECCOMAS 2012, Vienna, Austria, September 10–14, 2012.

“Data Transfer Operators for Frictional Contact Problems,” 10th World Congress on Computational Mechanics, Sao Paulo, Brazil, July 8–13, 2012.


“Contact Mechanics on Embedded and Enriched Interfaces” (invited keynote lecture), 2nd ECCOMAS International Conference on Computational Contact Mechanics (ICCCM 2011), Hannover, Germany, June 15–17, 2011.


“A Stabilized Treatment of Arbitrarily Oriented Interfaces,” ASME International Mechanical Engineering Congress and Exposition, Boston, Massachusetts, October 31–November 6, 2008.

“New Mortar/Finite Element Algorithms for Large Sliding Contact Analysis” (invited, invitation only), Symposium of Advances in Contact Mechanics: a tribute to Prof. J.J. Kalker, Delft, The Netherlands, October 22–24, 2008.

“Recent Extensions of Mortar-Based Contact Formulations: Lubrication Modeling and Parallel Implementations” (invited), International Union of Theoretical and Applied Mechanics Symposium on Computational Contact Mechanics, Hannover, Germany, November 5–8, 2006.

“Development of Mortar Frameworks as a Foundation for Surface-Based Approaches to Contact Mechanics” (plenary lecture, invited), International Conference on Multifield Problems, Stuttgart, Germany, October 4–6, 2006.

“Mortar-Based Surface-to-Surface Algorithms for Tribological Complexity in Transient Contact Mechanics” (keynote lecture, invited), Seventh World Congress on Computational Mechanics, Los Angeles, California, July 16–22, 2006.

“Mortar-Based Surface-to-Surface Contact Algorithms in Large Deformation Solid Mechanics” (keynote lecture, invited), Fourth Contact Mechanics International Symposium, Hannover, Germany, July 4–6, 2005.


“A New Class of Symmetric Algorithms for Computation of Frictional Mechanical Response,” Meet’N’93, the joint ASCE-ASME-SES meeting at Charlottesville, Virginia, June 6–9, 1993.

**Technical Talks at Universities, Research Labs, Workshops and Contract Reviews**

“Contact Mechanics on Embedded and Enriched Interfaces,” Department of Civil and Environmental Engineering, Rice University, Houston, TX, November 20, 2012.


“Recent Developments in Mortar-Based Simulation of Large Deformation Contact Mechanics,” Department of Mathematics, Universidade de Santiago de Compostela, Santiago de Compostela, Spain, October 22, 2007.


“New Strategies for Finite Element Solution of Large Deformation Contact/Impact Problems,” Department of Mechanical Engineering and Applied Mechanics, University of Michigan, Ann Arbor, Michigan, August 15, 1995.


“Application of Augmented Lagrangian Techniques to Frictional Contact Problems,” Lawrence Livermore National Laboratory, Livermore, California, August 23, 1990.

“Finite Element Methods for Problems Involving Finite Deformation, Contact, and Friction: Application to Thin Film Structures,” IBM Almaden Research Center, San Jose, California, March, 1990.

Nontechical Talks at International Symposia

“Envisioning the Future of Science and Technology: An Educational Perspective” (invited conference keynote lecture), Envision Innovation 2012 (organized by Lockheed Martin and Microsoft), Abu Dhabi Hilton Hotel, Abu Dhabi, United Arab Emirates, December 5, 2012.


“CSE as a Core Ingredient in a New Technological University in Engineering and Medicine,” Gesellschaft fur Angewandte Mathematik und Mechanik (GAMM) CSE Kickoff Meeting, Munich, Germany, September 18, 2012.


GRANT AND CONTRACT SUPPORT

Support Obtained as PI or co-PI


“Local Smoothing Techniques and Consistent Sliding Formulation for Contact Analysis,” T.A. Laursen (PI) and J.E. Dolbow (co-PI), Sandia National Laboratories, $524,681, October 2006–September 2010.


“Bridging Macro and Micro Ethics: Advancing Ethics Education for Nano-scale Researchers,” T. Laursen (PI), Rob Clark, Elizabeth Kiss, Tim Lenoir and Dan Vallero (co-PIs), National Science Foundation, $200,000, September 2005–August 2009.


Projects Contributed to as Co-Investigator


PROFESSIONAL SERVICE ACTIVITIES
(Selected)

* Member, Scientific Organizing Committee, United States National Congress on Computational Mechanics, San Diego, CA, July 26–30, 2015.

* Member, Executive Council, International Association for Computational Mechanics, 2014–2020.


* Member, General Council, International Association for Computational Mechanics, 2009–present.

* Member, International Scientific Committee, Tenth World Congress on Computational Mechanics, Sao Paulo, Brazil, July 8–13, 2012.

* Member, Technical Committee, Eleventh International Conference on Computational Plasticity, Barcelona, Spain, September 7–9, 2011.

* Member, Technical Committee, Tenth International Conference on Computational Plasticity, Barcelona, Spain, September 2–4, 2009.

* Member-At-Large, Executive Committee, United States Association of Computational Mechanics, 2006–2010.

* Member, Scientific Committee, IUTAM Symposium on Computational Contact Mechanics, Hannover, Germany, November 5–9, 2006.

* Co-coordinator (w/ P. Wriggers), Advanced Course on Computational Contact Mechanics, International Centre for Mechanical Sciences (CISM), Udine, Italy, September 25–29, 2006.

* Member, Technical Committee, Eighth International Conference on Computational Plasticity, Barcelona, Spain, September 5–7, 2005.


* Member, Scientific Advisory Committee, Fourth Contact Mechanics International Symposium, Hannover, Germany, July 4–6, 2005.


* Member, Executive Committee of Sigma Xi, The Scientific Research Society, Duke University Chapter, 1995–1999


**COURSES TAUGHT**

**Undergraduate Courses, Duke University**

* EGR 10, Introduction to Engineering (given in Spring 2004, Fall 2004, Fall 2005, Fall 2006, Fall 2007)

* EGR 53L, Computational Methods in Engineering (given in Fall 1992, Spring 1994)


* EGR 150, Engineering Communication (given in Spring 2006)

* CE 122L, Fluid Mechanics (given in Spring 1996)

* CE 131L, Matrix Structural Analysis (given in Fall 2005)

* CE/ME 175, Analytical and Computational Solid Mechanics (developed and given in Spring 2003)

* ME 131, Mechanical Engineering Analysis for Design (given in Fall 2009)
Undergraduate Courses, Khalifa University

* AERO/MECH 320, Mechanics of Solids I (given in Spring 2012 and Spring 2013, co-taught with K. Liao)

Graduate Courses, Duke University

* CE 201, Advanced Mechanics of Solids (given in Spring 1995)
* CE/BME 206, Elasticity (given in Spring 2008, Spring 2010)
* CE 251, Systematic Engineering Analysis (given in Fall 1997, Fall 1999)
* CE/ME 255, Nonlinear Finite Element Analysis (developed and given as CE 265 in Fall 1993, given as CE 255 in Fall 1996, Spring 1999, Fall 2001, Spring 2004, Spring 2006, given as CE/ME 255 in Spring 2009)

Other Graduate and Professional Teaching Activities

* Three hours of lectures in Intensive Course on Tire-Pavement Interaction, Delft University of Technology, Delft, Netherlands, September 26-28, 2011.
* Five day short course on Finite Elements at Michelin Americas Research Corporation (MARC), Greenville, SC, July 12–16, 2010
* Five day short course on Finite Elements at Michelin Americas Research Corporation (MARC), Greenville, SC, July 16–20, 2007
* Six hours of lectures in Advanced Course on Computational Contact Mechanics, International Centre for Mechanical Sciences (CISM), Udine, Italy, September 25–29, 2006.

GRADUATE STUDENT SUPERVISION

Ph.D. Dissertations Supervised

* Temesgen Kindo, Data Transfer Between Meshes for Large Deformation Frictional Contact Problems, Department of Civil and Environmental Engineering, Duke University, degree completed in Fall 2013.
* Jessica Sanders, Stable Embedded Grid Techniques in Computational Mechanics, Department of Civil and Environmental Engineering, Duke University, degree completed in Fall 2010.
* Bin Yang, Mortar Finite Element Methods for Large Deformation Contact Mechanics, Department of Civil and Environmental Engineering, Duke University, degree completed in Spring 2006.
* Ilinca Stanciulescu, Nonlinear Finite Element Formulations and Bifurcation Analysis for Structures Undergoing Large Deformations, Department of Civil and Environmental Engineering, Duke University, degree completed in Summer 2005.


**Masters Theses Supervised**

* Jessica Berry, *Correlation of Finite Element Analysis to Impacted Composite Plates*, Department of Civil and Environmental Engineering, Duke University, degree completed in Fall 2011.


* Jessica Sanders, *The Stabilized Enforcement of Constraints on Arbitrarily Oriented Interfaces for the Extended Finite Element Method*, Department of Civil and Environmental Engineering, Duke University, degree completed in Fall 2007.


* Yingshu Yu, *Thermodynamically Consistent Dynamic Integrators for Dissipative Systems*, Department of Civil and Environmental Engineering, Duke University, degree completed in Fall 1998.


Masters Projects Supervised


UNIVERSITY SERVICE
(Duke University)

University-Wide Activities

* Member, Arts and Sciences Study Abroad Committee, 2002–2010
* Acting Chair, Arts and Sciences Study Abroad Committee, 2010
* Member, Undergraduate Leadership Group, 2006–2008
* Member, Athletics Council, 2005–2007
* Member, Enrollment Management Group, 2003–2008
* Member, Task Force on the Undergraduate Experience, 2005–2006
* Member, Admissions and Financial Aid Committee, 2005–2008
* Member, Steering Committee for the Center for Computational Science, Engineering, and Medicine, 2003–2006
* Member, Bass Chairs Committee, 1999–2002
* Member, Executive Committee of the Graduate Faculty, 1999–2000
* School of Engineering Representative, Arts and Sciences Officer Education Committee, 1992–2005

Department and School Activities

* Chair, Pratt School of Engineering Graduate Education Committee, 2003–2008
* Chair, Pratt School of Engineering Undergraduate Education Committee, 2003–2008
* Member, Pratt School of Engineering Curriculum Committee, 2002–2003
* Member, Civil and Environmental Engineering Chair Search Committee, 2000–2001
* Chairman, Engineering Faculty Council, 1999–2000
* Member, School of Engineering Investment Task Force, 1997–1998

* Coordinator, Interdisciplinary Colloquia on Mechanics and the Environment, Spring 1994

* Member, Graduation with Distinction Committee, Civil and Environmental Engineering, 1993–1994

* Faculty Secretary, Civil and Environmental Engineering, 1992–1994