

The mission of the Kenan Institute for Engineering, Technology and Science is to develop partnerships in basic research, education, commercialization and public outreach with individuals and organizations dedicated to the advancement of science, engineering and technology as a force in improving the economic and social well-being of the nation and the world.

The organization is small and nimble, always focused on service to its partners. It is impossible to name every partner and participant in the work of KIETS over our first 30 years, but we want to shine a light on their achievements through this timeline and recognize the significant contributions they have made.



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2/1/94





























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### 7/31/92

KIETS is established by visionaries William C. Friday, Frank Kenan, and Chancellor Larry Monteith and located on NC State's Centennial Campus. Hal Hopfenberg is named the first director of the Institute.



# 2/1/94

First time KIETS provides sponsorship for the **Emerging Issues Forum** led by Governor Jim Hunt and Betty Owen. The forum topic that year was "Investing in Health: An American Agenda"

# 10/1/95

KIETS facilitates the launch of the Park Scholarship Program at NC State with a \$1.2 million grant from the Park Foundation. The first 25 Park Scholars are selected, KIETS Associate Director Mark Bensen is appointed as the first director of the Park Scholars Program.



# 7/1/97

KIETS establishes the Kenan Center for the Utilization of Carbon Dioxide in Manufacturing, an effort led by Ruben Carbonell, and Joe DeSimone.

KIETS moves into new offices in Partners 1 **Building** on NC State's Centennial Campus.



### 9/1/99

Hal Hopfenberg retires as KIETS founding director and Ruben **Carbonell** is appointed as KIETS Director.



12/23/99

KIETS Leadership Ruben



The first KIETS initiative is the Hoechst Celanese-Kenan Program in Environmental Science and Technology, led by Ruben Carbonell and Hal Hopfenberg.



The first KIETS Entrepreneurship Initiative is called the Technology, Entrepreneurship and Commercialization (TEC) Program. It launches with support from the National Science Foundation and leadership from NC State's Angus Kingon (College of Engineering) and Steve Markham and Michael Zapata (College of Management).

7/1/95

KIETS partners with the NC Biotechnology Center to launch the Collaborative Funding Grants (CFG) program supporting industry-university research efforts in biotechnology throughout the state, working with Charles Hamner and Tom Laundon of NCBC.

7/1/96

KIETS founding Chancellor Larry Monteith retires and is succeeded by Chancellor Marye Anne

Fox. Raj Narayan joins KIETS and is named Director of the Technology, Entrepreneurship and Commercialization (TEC) Program.





KIETS supports the launch of NC State's first NSF Science and Technology Center for **Environmentally Responsible** Solvents and Processes with a grant award of \$36 million, led by Joe DeSimone and Ruben Carbonell.



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working with Chai Hameur and Torni of NCSC 7/1/96

# 8/9/00

KIETS helps to launch the **NSF Center for Innovation Management Studies** at NC State's College of Management in collaboration with CIMS Director Al Bean and Assistant Director Steve Markham.



### 2/14/01

KIETS develops an agreement with the Gordon Research Conferences (GRC) and Director Carl Storm to establish a new program for young investigators, the Gordon-Kenan Graduate Research Seminars.

# 11/21/01

The first Gordon-Kenan **Graduate Research** Seminar on Bioinorganic Chemistry is held in Rhode Island and managed by Carl Storm and Gerri Miceli.



# 7/9/02

KIETS supports the development of the Statistical and Applied Mathematical Sciences Institute (SAMSI), a partnership among Duke (Jim Berger), NC State (Thomas Banks), UNC-Chapel Hill (Stephen Marron), and the National Institute of Statistical Sciences (Alan Karr), SAMSI receives an initial \$10 million grant from the National Science Foundation.

# 7/1/05

KIETS establishes the **Bioseparations/Bioprocessing Development Center (BBDC) to** complement the educational role of the Biomanufacturing Training and Education Center (BTEC).



### 1/1/07

**Anita Brown-Graham** is appointed Director of the Institute for Emerging Issues.



KIETS establishes the Institute for Emerging Issues (IEI) at NC State, to enhance the impact of the Emerging Issues Forum. The first director of IEI is Noah Pickus.

8/2/00



KIETS incubates and launches the NC Space Initiative under the direction of Chris Brown, in collaboration with NC State Vice Chancellor for Research, UNC General Administration, and NASA.

1/12/01

KIETS launches the Kenan Fellows Program for Curriculum and Leadership Development. The first Director is Deborah Mangum.

2/15/01



The Institute for Emerging Issues holds its first Emerging Issues Forum under KIETS leadership, focusing on "Biotechnology and Humanity at the Crossroads of a New Era" with IEI Director Noah Pickus, Governor Jim Hunt, and Glaxo Smith Kline's CEO Bob Ingram.

2/11/02

New NC State Chancellor James Oblinger becomes Chairman of KIETS Board of Trustees.

1/1/05



**KIETS supports TEC Program Accelerating Commercialization** of Technology (ACT) initiative in collaboration with UNC System President Erskine Bowles to enable technology commercialization across UNC system universities.

9/26/06





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working with Che Harmer and Torni of NCSC 7/1/96



### 7/3/07

NC State Office of Technology Transfer.

KIETS establishes a partnership with the Daugherty Entrepreneurship Endowment to support NC State startup companies with leadership from former IBM executive **Dick Daugherty** and David Winwood of the

### 1/1/08

**KIETS Director Ruben Carbonell** is appointed director of the Biomanufacturing Training and Education Center (BTEC) at NC State.



Valerie Brown-Schild appointed as the Director of the Kenan Fellows Program.

3/1/07



With KIETS leverage and leadership from Jim Berger, Alan Karr, and Ralph Smith, the Statistical and Applied Mathematical Sciences Institute (SAMSI) successfully renews its \$20 million NSF award and begins collaboration with the Kenan Fellows.

10/4/07

**KIETS Associate** Director Raj Narayan named as an Eisenhower Fellow to study research, education, commercialization and policy initiatives in Argentina and Brazil.

2/5/08



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### 10/1/08

KIETS supports the establishment of the NSF Future Renewable Electric Energy Delivery and Management (FREEDM) Systems Engineering Research Center, working with codirectors and professors Alex Huang and Igbal Hussein of NC State.



### 6/1/09

**Dr. James Woodward** is appointed Interim Chancellor of NC State and Chair of the KIETS Board of Trustees.

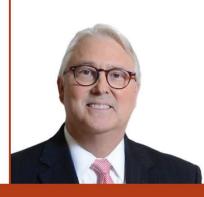


# 12/20/09

NC State Vice Chancellor for Research Terri Lomax, Assistant Vice Chancellor Chris Brown and KIETS leaders launch the Strategic Research Initiatives Seed Funding (RISF) Program.

# 4/1/10

New NC State Chancellor Randy Woodson becomes the Chair of the KIETS Board of Trustees.



# 7/1/11

KIETS supports the
Springboard Innovation
Partnership Portal of
the Office of Technology
Transfer to help launch
new companies based
on university intellectual
property, and leverage the
financial support provided
by the Chancellor's
Innovation Fund.

### 12/1/12

With support from KIETS and the NC State Vice Chancellor for Research, the NC State Nonwovens Institute, directed by Professor Behnam Pourdeyhimi, opens the Pilot Facility for Coatings.





NC Space Inititiative / KIETS release "Ready to Soar: Aviation and Aerospace in NC" report authored by Deborah Watts, Chris Brown and Raj Narayan.

5/6/08

KIETS supports the inaugural NC State Entrepreneurship Games competition.

4/1/09

Kenan Fellows Program awarded the NC Science Teachers Association Don Bailey Distinguished Service Award for Exceptional Service to Science Education in NC.

11/19/09



KIETS and the NC Biotechnology Center celebrate the 15th anniversary of the Collaborative Funding Grants Program. To date the program has made 71 grants, offered more than \$211 million in follow on funding, produced 194 publications, 30 patents, and launched four NC startup companies under the supervision of NCBC President Norris Tolson, Collaborative Funding Grants Director Maria Rapoza, and KIETS Trustee John Atkins.

1/11/11



KIETS supports NC State's
Bioengineering and Society: The Case
for Genetically Engineered Pests
Initiative. The project receives a \$3
million NSF grant with Professor
Fred Gould as principal investigator.























































7/14/21

7/1/22

### 1/29/13

KIETS hosts its 20th **Anniversary** event at the Hunt Library.



# 10/18/13

The KIETS-supported **FREEDM Center receives** a renewal grant of \$18 million from the National **Science Foundation** to help modernize the American electric grid.



# 9/26/14

**KIETS Director Ruben Carbonell** is inducted into the National Academy of Engineering.

### 9/1/15

KIETS establishes a partnership with the National Academy of Engineering to support the EngineerGirl program to enhance the participation of women in science and engineering. Kenan Fellow Christy Wilson is appointed to the EngineerGirl Steering Committee.

### 4/1/16

The Daugherty Entrepreneurship Awards for new companies becomes an official award track in the NC State Lulu eGames annual funding competition for new startups.

### 7/1/16

The Kenan Fellows Program launches the Journal of Interdisciplinary Teacher Leadership managed by Elaine Franklin, Amneris Solano, and Randy Pinion to provide a venue for teachers to publish papers and disseminate best practices in teacher leadership and training.

# 2010s

KIETS moves to a new home office in the James B. Hunt, Jr. Library.

12/12/12



**Dr. Elaine Franklin is** appointed Director of the Kenan Fellows Program.

9/1/13



KIETS supports NC State Professor Chase Biesel's research on CRISPR technology which leads to the development of NC State startup company Locus Biosciences.

12/1/13



KIETS and the four sister Kenan Institutes select 8 grant winners for the Kenan Creative Collaboratory Initiative, including support for Institute for Emerging Issues project, "Innovate NC" to help the growth of rural economies.

5/15/15



KIETS partners with NC Sea Grant, directed by Susan White, to develop and launch the Community Collaborative Research Grant Program to support priority coastal issues with community partners.

11/1/15

The Kenan Fellows Program is recognized with the **Higher Education Department of the Year** award at the first annual STEMmy Awards hosted by the Research Triangle Park Foundation.

5/25/16





### 3/1/17

KIETS partners with NC State Vice Chancellor for Research Alan Rebar and Research Triangle Institute to support the Game Changing Research Incentive Program (GRIP) to support major new multi-disciplinary research initiatives.



KIETS supports the development of the National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL), with Director Kelvin Lee and Chief Technology Officer, Ruben Carbonell. The organization receives a \$70 million grant from National Institute for Standards and Technology.

### 10/18/17

Kenan Fellows Program
Director Elaine Franklin
receives the 2017 Herman
and Emma Gatling Award

and Emma Gatling Award for Outstanding Science Education Leadership from the NC Science Leadership Association.



# 12/1/18

With KIETS Support, the

NC Coastal Federation and

NC Sea Grant present the

NC Strategic Plan for Shellfish Mariculture to NC General Assembly to support NC oyster industry.

# 8/1/19

Working with
BTEC Director
Gary Gilleskie,
KIETS supports
the Accelerated
Innovation in
Manufacturing
Biologics (AIM-Bio)
Program to obtain
\$27 million grant
from Novo Nordisk
Foundation.

# 4/3/19 4/22/20

KIETS Administrative Leadership Tara Spivey and Cordella Rashid receive Chancellor's Unit Award for Excellence.



The NC State Office of Research Commercialization in partnership with KIETS, and the offices of the Chancellor and Vice Chancellor, establish the Wolfpack Investor Network (WIN)—the first alumni angel investment group at NC State. KIETS Associate Director Raj Narayan appointed to the WIN Steering Committee and WIN is housed at KIETS offices.

9/1/16

KIETS and the NC Biotechnology Center—led by President Doug Edgerton and Vice President Rob Lindberg—celebrate 20 years in partnership on the Collaborative Funding Grants Program. At this milestone, the collaboration has recorded \$352 million in followon funding, 90 closed grants, 338 publications, 60 patents, and established six startup companies.

4/18/17

Carbonell receives the UNC System's O. Max Gardner Award, the highest honor presented to a faculty member in the University System.

5/14/18



KIETS supports Genetic
Engineering and Society
Director Fred Gould,
who receives a \$3
million National Science
Foundation grant to
establish the Agricultural
Biotechnology Food
Energy and Water Systems
Fellowship Program.

10/25/18

KIETS collaborates with the NC Museum of Natural Science and the Citizen Sciences
Association to support the 2019 Citizen Science Association
Conference held for first time in Raleigh, NC. Kenan Fellow
Rachel Polmanteer and her students deliver a keynote address about their work integrating citizen science and science curricula.

3/13/19

Kenan Fellows
Program
Endowment
initiative
established by KFP
Director Elaine
Franklin and KFP
Asst. Director
of Development
Darrell Kain.

2/26/20

KIETS University
Program
Associate
Tara Spivey
and Kenan
Fellow Alumnus
LaTanya Pattillo
are named
William C. Friday
Fellows for
Human Relations.



### 7/1/20

KIETS partners with Vice Chancellor for Research Mladen Vouk, Associate Vice Chancellor of Research Jon Horowitz, and the College of Agriculture and Life Sciences, led by Dean Richard Linton, to support the Plant Sciences Game Changing Research Incentive Program, to help establish research programs for the new Plant Sciences Building on Centennial Campus.

# 7/1/21

KIETS launches the Climate
Leaders Program in
collaboration with Provost
Warwick Arden. Mary Watzin,
Director of the Coastal
Resilience and Sustainability
Initiative, is appointed Chair of
Steering Committee, Roy He
is appointed Senior Faculty
Fellow, and Amanda Mueller is
the Program Manager.

### 8/1/21

KIETS celebrates its 20-year partnership with Gordon Research Conferences, providing seed funding for 200 new Gordon-Kenan Research Seminars, while also helping to leverage \$10,470,671 from private and federal sources.

### 12/10/21

KIETS launches a new collaboration with NC State's Vice Chancellor for Research to support the Global Health and Climate Change Research Innovation Seed Funding (RISF) Program. Since 2016, the RISF program has received 367 proposals and awarded funds to 60 projects which have generated approximately 106 follow-on proposals of which 31 received awards totaling \$16,140,051. During this period, 54 students received support, 211 publications or presentations were made, and 23 workshops/symposia were conducted.

### 6/24/22

Cordella Rashid, KIETS
Assistant Director for Grants and

Finance appointed to NC State
Staff Senate as a representative
of the Chancellor's Unit.



# 2020s

In response to the COVID pandemic and with NIMBL support, KIETS engages with NC State's Nonwovens Institute, (Director Behnam Pourdeyhimi) to develop next-generation protective facemasks. KIETS also supports BTEC Director Gary Gilleskie and Assistant Director Michelle Ray-Davis in producing hand sanitizer for COVID protection of university employees and students.

6/1/20

KIETS works with the Biomanufacturing Training and Education Center (BTEC) and NC Museum of Natural Sciences to develop and provide hand sanitizer for visitors to the museum.

9/1/20



The KIETS supported
National Institute for
Innovation in Manufacturing
Biopharmaceuticals
(NIIMBL) receives a renewal
grant of \$70 million from
the National Institute of
Standards Technology and
an \$83 million grant from the
American Rescue Plan for
COVID Research, totaling
\$153 million.

7/14/21



KIETS initiates a
partnership with Kidzu
Museum to develop the
NC Children's Museum.

9/1/21

The Kenan Fellows
Program celebrates 21
years with over 540 Kenan
Fellows and a successful
launch of the STEMwork
Pilot, engaging Kenan
Fellows alumni across the
state and beyond.

4/22/22



2012 Kenan Fellow Vance Kite selected as the Director of the Kenan Fellows Program. Along with Mark Townley Assistant Director of Programs and Carrie Horton, Program Manager, the Kenan Fellows Program continues to thrive and engage its alumni in leading KFP program development and implementation statewide.