

CENTER FOR COOPERATIVE PROBLEM SOLVING

VIRGINIA TECH.



2022 Annual Report

Table of Contents

Overview, Mission, and Vision	page 3
Core Team	page 4
Affiliate Members	page 5
The Advisory Council	page 7
Published Journal Articles and Conference Presentations	page 8
KAI Symposium	page 9
Internet Articles	page 9
KAI Accreditation, Master Class, and KAI Events	page 10
Extension and Outreach	page 11
Guest Lectures & Workshops	page 12
Teaching, Advising, and Graduate Certificate	page 14
Contracts and Cost Recovery	page 15
Website, Media, and Social Media Analytics	page 15
Future Directions	page 17

Overview, Mission, and Vision

<u>The Center for Cooperative Problem Solving</u> (CCPS), at Virginia Tech, is an Extension/Outreach Center housed in the <u>College of Agriculture and Life Sciences</u> (CALS). CCPS seeks to advance Adaption-Innovation (A-I) theory and Kirton's Adaption-Innovation Inventory (KAI) as critical tools for problem solving and leading change through teaching, research, and outreach.

The following efforts have been identified as priorities of the Center:

- Teaching of KAI Accreditation Courses, Master Classes, and KAI Events for the continuing education of KAI practitioners around the world.
- Providing instruction for graduate courses associated with the Problem Solving for Leading Change graduate certificate, a twelve credit-hour certificate offered through oncampus and online learning environments.
- Facilitating community capacity building through leadership workshops and trainings for cooperative extension personnel, local government officials, and community leaders.
- Implementing a multi-institutional research agenda to examine the further application
 of A-I theory as it relates to areas of problem solving, leadership, community viability,
 team science, organizational and societal change, systems thinking, and behavioral
 health.
- Building a community of KAI practitioners around the world through mentoring programs, research symposia, collaborative workshops, and educational sessions.

Vision Statement

To develop leaders and teams who value cognitive diversity to address the problems of today and tomorrow.

Mission Statement

The mission of the Center for Cooperative Problem Solving is to create a global community of leaders and teams who research, teach, and apply Kirton's Adaption-Innovation Theory, with humility and respect, and value cognitive diversity for addressing the problems of today and tomorrow.

Core Team

The Core Team of CCPS serves as leadership for programming and curricular development of KAI related materials



Curtis Friedel – CCPS Director & Associate Professor



Megan Seibel – CCPS Director & Virginia Agricultural Leaders Obtaining Results (VALOR)

Director



Jerald Walz – Faculty Program Associate & Collegiate Assistant Professor



Priscilla Wolfe - Senior Fellow



Affiliate Members

Affiliate membership in CCPS was established in 2022, with 17 members. Affiliate Members of CCPS are individuals who are current KAI practitioners at Virginia Tech, and using adaption-innovation theory to advance their work in teaching, research, and outreach. CCPS Affiliate Members include:



Dr. Wafa Al-Daily
Associate Director for Global
Initiatives
Center for International Research,
Education, and Development



David Close Volunteer Engagement Specialist Virginia Cooperative Extension



Jeremy C. Johnson
Associate Director
State 4-H Leader
Virginia Cooperative Extension



Dr. Kim Carlson
Program Director
Principal Partnerships Office



Jama Coartney
Ph.D. Student
Department of Agricultural,
Leadership, and Community
Education



Lonnie Johnson
Associate Director for Field
Operations and Administration
Virginia Cooperative Extension



<u>Dr. Kathleen Carper</u>
Collegiate Assistant Professor
Grado Department of Industrial and
Systems Engineering



Dr. Austin Council
Instructor & Coordinator,
Department of Agricultural,
Leadership, and Community
Education



Dr. Eric Kaufman
Professor and Associate
Department Head
Department of Agricultural,
Leadership, and Community
Education

Affiliate Members (continued)



Erin Ling
Sr. Extension Associate
Department of Biological Systems
Engineering



Rachel Mack Ph.D. Student Department of Agricultural, Leadership, and Community Education



Dr. Christina Mathai Change Management Specialist Division of Information Technology



Dr. Gary Snyder Adjunct Instructor Department of Human Nutrition, Foods, & Exercise



Dr. Hannah Sunderman
Assistant Professor
Department of Agricultural,
Leadership, and Community
Education



Elli Travis
Economic Development Specialist
Center for Economic and
Community Engagement



Dr. Crystal Tyler-Mackey
Extension Leader, Inclusion and
Diversity
Department of Agricultural,
Leadership, and Community
Education



Dr. Donna Westfall-Rudd
Associate Professor
Department of Agricultural,
Leadership, and Community
Education

The Advisory Council

The Advisory Council serves as an advisory board for both the Center for Cooperative Problem Solving and the KAI Foundation. It seeks to offer recommendations, evaluate programs, and provide information relevant to policy associated with advancing KAI and Adaption-Innovation theory. The Advisory Council members include:



Dr. Iwan Jenkins
Chair
Director, The Riot Point
Research Corporation



Dr. James Anderson Associate Professor University of Georgia



Dr. Kathryn Jablokow Professor Pennsylvania State University



Nicola Kirton Ryall
Ex-officio Member
Director - KAI Foundation



Laura Moncrieffe Founder & Chief Innovation Officer Revelation Insights & Ideas



Dr. Curt Friedel
Ex-officio Member
Director – CCPS



<u>Jessica Prater</u> Principal Consultant J. Prater Consulting



<u>Dr. Megan Seibel</u> Ex-officio Member Director – CCPS



Jessica Player Secretary Chief Master Sergeant United States Air Force



Diane Houle-Rutherford Director Houle-Rutherford Consulting



Guido Prato Previde
Director
Decathlon Consulting



<u>Dr. Priscilla Wolfe</u> Member-At-Large President - PS Wolfe, Inc



Published Journal Articles

- McIntyre L.S., Friedel C.R., & Lathan C. (2022). Problem-solving style and resiliency of navy seals: how are the more adaptive and the more innovative different. *Thinking Skills and Creativity.* 43. doi: 10.1016/j.tsc.2022.101001
- Sheffield, R. O. B., & Friedel, C. R. (2022). Adaption-innovation Theory: A Tribute to Dr. Michael J. Kirton. *International Journal of Innovation Management*, *26*(1). doi:10.1142/S1363919622770011

Conference Presentations

- Friedel, C., Carper, K., & Barber, J. (2022). Enhancing Community Capital through Application of Adaption-Innovation Theory for Building Sustainable Food Systems. *AFHVS 2022:*Cultivating Connections. Athens, Georgia.
- Friedel, C., Walz, J., & Greaud, M. (2022). Team Research Projects and Problem-solving Styles of Gifted and Talented Youth. Poster session presented at the meeting of 13th Annual International Science of Team Science Conference. Online.
- Seibel, M. (2022). Cognitive Diversity in Healthcare Settings: Leadership Considerations for Administrators, Practitioners, and Patients. *Healthcare Leadership Conference:*International Leadership Association. Online.
- Seibel, M. (2022). Leadership Super Seminar: Comprehending Your Leadership Style to Enhance Personal and Professional Growth at the Local Level. *107th Annual Meeting and Professional Improvement Conference: NACAA*.
- Seibel, M., Dowdy, M., Prater, J., Sheffield, R., & Wolfe, P. (2022). Best Practices for Fostering Wellbeing through KAI Feedback and Response. Second Annual KAI Symposium:

 Adaption, Innovation, and Well-being in the Dynamic Workplace. Online. Blacksburg, VA: Virginia Tech.



KAI Symposium



On February 23 and 24th, in partnership with the KAI Foundation, the 2nd annual KAI Symposium was held, online via Zoom. The theme was Adaption, Innovation, and Well-being in the Dynamic Workplace, with 57 KAI practitioners and guests from around the world joining for the 10-hour session.

Proceedings can be found at http://hdl.handle.net/10919/112576
Online review of speakers can be found at https://kai.foundation/kai-symposium-2022-review/

Citation:

Friedel, C. R., Seibel, M. M., Walz, J. H. (Eds.). (2022). *Proceedings from the 2nd Annual KAI Symposium: Online*. Blacksburg, VA: Virginia Tech. http://hdl.handle.net/10919/112576.

Internet Publications

- Anderson, J. (2002). A problem shared. *HR Director*. Retrieved from https://www.thehrdirector.com/wp-content/uploads/2019/12/theHRDIRECTOR-207-JANUARY-LR.pdf#page=46
- Bernacki, E. (2022). How to stop killing the ideas of people who do not think like you. *Apolitical*. Retrieved from https://apolitical.co/solution-articles/en/how-to-stop-killing-the-ideas-of-people-who-do-not-think-like-you
- Friedel, C. (2022). Enhancing leadership by promoting coping behaviour. *TrainingZone*.

 Retrieved from https://www.trainingzone.co.uk/lead/strategy/enhancing-leadership-by-promoting-coping-behaviour
- Jenkins, I. (2022). How to find your perfect business partner in 2022. *Business Express*.

 Retrieved from https://business.express/how-to-find-your-perfect-business-partner-in-2022/
- Seibel, M. (2022). Five things business leaders can do to create a fantastic work culture.

 Authority Magazine. Retrieved from https://medium.com/authority-magazine/megan-seibel-of-kai-foundation-five-things-business-leaders-can-do-to-create-a-fantastic-work-ca8ee0716562
- Seibel, M., & Hemsley, S. (2022). The real reasons why your ideas at work are rejected.

 Worklife. Retrieved from https://www.worklife.news/culture/the-real-reasons-behind-why-your-ideas-at-work-are-rejected/



KAI Accreditation, Master Class, and KAI Events

Since 2013, Virginia Tech has been offering KAI Accreditation Courses (formerly Certification Courses) and Master Classes (formerly Advanced Workshops) to a global network of individuals for use of the KAI in their consulting, teaching, and research. During this time, 177 individuals had completed the KAI Accreditation Course. Of these individuals, 54 have doctoral degrees and 97 have attained a master's degree, with countries represented from the United Kingdom, Canada, France, Germany, India, Italy, Netherlands, and Switzerland.

Since 2013, there have been 39 individuals complete a Master Class to maintain their KAI Accreditation. Of these individuals, 14 have a doctoral degree, and 16 have a master's degree; with countries represented from the United Kingdom, Brazil, Canada, China and Taiwan.

In 2022, much effort was placed on updating KAI curricular materials for the KAI Accreditation Course. This included updating the KAI Manual and developing a new KAI Sourcebook. The citations for these are:

- KAI Foundation. (2022). *KAI Manual* (C. Friedel, M. Seibel, P. Wolfe, Eds., 5th ed.). KAI Foundation.
- KAI Foundation. (2022). *KAI Accreditation Course Sourcebook* (C. Friedel, M. Seibel, P. Wolfe, Eds.). KAI Foundation.

Correspondingly, the course was redesigned to fit a two-week, blended learning platform, utilizing Canvas and Zoom, with days for live instruction and days for study-on-your-own. This effort came at the expense of not offering a KAI Master Class and only offering one KAI Accreditation Course. This KAI Accreditation Course was offered in partnership with Franklin University, in Lugano Switzerland, with six individuals completing the 35-hour course.



Extension and Outreach

In Virginia Cooperative Extension, KAI has been offered to approximately 470 faculty. The 2022 response rate, with feedback session attendance (live) or proof of watching recorded session required in order to get feedback, was approximately 25%. This effort is being led by Megan Seibel and Lonnie Johnson and has been approved for continued data collection and evaluative analysis by the new Director of Virginia Cooperative Extension into 2023.

Additionally, a KAI workshop was conducted with 4-H administration and staff with the University of Arizona Cooperative Extension in early 2022 and plans are in place to advance it through Penn State Extension and North Dakota State University Extension systems in 2023.

As an administrator for a large statewide organization I have used KAI to help team members to better understand how individuals relate to problems, their resulting problem-solving approaches, and to establish ways of talking about problems and team member behaviors. The team talks about their KAI scores as a way to illuminate their perspectives and analyze their discomfort and biases towards or against certain solutions and started to improve an understanding about how our stakeholders will have different preferences. I believe that once our team members were trained in KAI we developed better strategies and improved our organizational change strategy.

-Dr. Jeremy Elliott-Engel, former Associate Director for 4-H Youth Development, Arizona Cooperative Extension, University of Arizona



Guest Lectures and Workshops

- Friedel, C. R. (2022, January 19). *Leading as Agents of Change*. For students enrolled in MGMT 3150: Creativity, Innovation, and Design Thinking. Guest Lecture at the University of Denver. Virtual. Gave KAI to 22 students.
- Friedel, C. R. (2022, February 18). *Building a Culture of Collaboration*. Helena Agri-Enterprises. Travelers Rest. SC.
- Friedel, C. R. (2022, April 15). Your Problem-solving Style and Leading Creative Teams. For students enrolled in CRS 620: Creativity Assessments and Measurement. Guest Lecture at Buffalo State University. Virtual. Gave KAI to 15 students.
- Friedel, C. R. (2022, April 21). *Leading as Agents of Change*. For students enrolled in MGMT 3150: Creativity, Innovation, and Design Thinking. Guest Lecture at the University of Denver. Virtual. Gave KAI to 22 students.
- Friedel, C. R. & Travis, E. (2022, June 7-8). *Strategic Thinking Retreat.* New River Mount Rogers Workforce Board. Wytheville, VA.
- Friedel, C. R. (2022, September 6). *Leading Your Creative Teams*. Crane Manufacturers Association of America (CMAA) Overhead Education Session. Virtual.
- Friedel, C. R. (2022, September 19). *Your Creative Teams and Your Style*. AMP Bank of Australia. Virtual.
- Friedel, C. R. (2022, September 20). *KAI and Entrepreneurial Leadership*. For students enrolled in MGT 2984: Entrepreneurial Leadership. Guest Lecture at Virginia Tech. Gave KAI to 36 students.
- Friedel, C. R. (2022, September 26). *KAI and Entrepreneurial Creativity.* For undergraduate students enrolled at Hult International Business School, United Kingdom. Virtual Guest Lecture. Gave KAI to 7 students.
- Jenkins, I. (2022, April 6). Why Leonardo was a Loser but you Needn't be: The Importance of Diversity & Cognitive Style in STEM, Business, & Education. Blacksburg, VA.
- Kirton Ryall, N. & Friedel, C. R. (2022, November 5). *Problem Solution Fit the KAI Way*. A Presentation for the Centre of Innovation and Incubation. Institute of Electrical and Electronics Engineers. National Institute of Technology, Warangal, India. Virtual.



Guest Lectures and Workshops (continued)

- Seibel, M. (2022, January). Leadership 101. LEAD Maryland Program. Adamstown, MD.
- Seibel, M. (2022, February). KAI for Arizona 4-H State Staff: Managing Team Dynamics. Virtual.
- Seibel, M. (2022, March). *Leveraging Cognitive Style in the Name of Innovation*. Innovation School Team at Salesforce. Virtual workshop.
- Seibel, M. (2022, May). *Cognitive Diversity in Leading and Managing Change.* Virginia Rural Center and Virginia Rural Leadership Institute Directors. Virtual.
- Seibel, M. (2022, April). *Leveraging Cognitive Diversity in Addressing Complex Healthcare Problems.* Health Systems Science Series: Virginia Tech Carilion School of Medicine.
- Seibel, M. (2022, May). Leading Together: Considering Cognitive Style When Working as Teams.

 Virginia Rural Leadership Institute. Institute for Advanced Learning and Research:

 Danville, VA.
- Seibel, M. (2022, June). *Leveraging Cognitive Style in the Name of Creativity.* Creative Enterprise team leaders for Summit.co Junto meeting. Virtual.
- Seibel, M. (2022, August). *Understanding Cognitive Style in Highly Functioning Teams*. Admin and delivery team, Soren West. Virtual.
- Seibel, M. (2022, September). KAI Agents of Change. KAI Practitioner training webinar. Virtual.
- Seibel, M. (2022, September). *Implications of Cognitive Style on Team Dynamics*. S.C. Johnson & Son Home Storage R&D, Ziploc Innovation Team. Virtual.
- Seibel, M. (2022, October). *KAI Organizational Use and Application Advising Session*. Medstar Health, VP for Organizational Development and Senior Admin Team. Virtual.
- Walz, J. H. (2022, November 1). *KAI discovery workshop for nonprofit leaders* [Webinar]. Center for Cooperative Problem Solving at Virginia Tech.

Our recent utilization of the KAI was instrumental in facilitating conversations with clinical faculty around cognitive diversity, exploring where their strengths lie along the adaptive-innovative continuum, and exploring how to capitalize on their positionality for collaborative progress among clinical teams.

-Sarah Harendt, Education & Faculty Development Manager, Carilion Clinic



Teaching and Advising

In 2022, it is estimated that the KAI was completed by 135 undergraduate students and 53 graduate students enrolled at Virginia Tech. Key courses to which KAI was introduced includes:

- ALCE 4004: Agricultural Sciences Seminar
- ACLE 5224: Team Science, Cooperation, and Interdisciplinary Work
- BSE 1004: Engineering Biological Systems for the Global Good
- BSE 2004: Introduction to Biological Systems Engineering
- LDRS 2014: Principals of Peer Leadership
- LDRS 3304: Dynamics of Leadership
- LDRS 5534: Cognition, Problem Solving, and Preferences for Change
- LDRS 5544: Leading Teams through Community Change
- LDRS 5554: Leading Social Change
- MGT 2984: Entrepreneurial Leadership

In the Department of Agricultural, Leadership, and Community Education (ALCE), leadership faculty members decided to focus on undergraduate students completing the KAI in ALCE 4004: Agricultural Sciences Seminar (for AGSC graduates) and LDRS 4044: Leadership Studies Capstone (for completers of the Leadership and Social Change minor), starting in 2023. Administration of KAIs is managed by CCPS through a centralized KAI account to prevent students completing the KAI more than once.

While graduate students continue to use KAI in their project and reports, theses, and dissertations, there were no completers during 2022.

Graduate Certificate

The <u>Problem Solving for Leading Change</u> graduate certificate is offered through the <u>Department of Agricultural, Leadership, and Community Education</u>, as a 12 credit-hour program. It features three core courses, each including elements of A-I theory, and ends with a three credit-hour project and report.

In total, the four courses to complete the graduate certificate include (with 2022 enrollment numbers):

- LDRS 5534: Cognition, Problem Solving, and Preferences for Change (7 students)
- LDRS 5544: Leading Teams through Community Change (27 students)
- LDRS 5554: Leading Social Change (21 students)
- LDRS 5904: Project and Report

While courses in the Problem Solving for Leading Change graduate certificate are well attended, more effort is needed to improve completion of LDRS 5904: Project and Reports.



Contracts and Cost Recovery

KAI Accreditation Courses, Master Classes, and Continuing Education:

CCPS maintains a Memorandum of Agreement (MOA) with the KAI Foundation to host KAI Accreditation Courses, Master Classes, and continuing education for KAI practitioners, with course fees paid to CCPs to recover costs. The following table present the gross income associated with these courses and activities.

Program	2021	2022
KAI Accreditation Courses	\$44,800	\$16,800
Master Classes	\$16,500	-
KAI Symposium	\$13,300	\$11,250
Total	\$74,600	\$28,050

Note. The Master Class scheduled for 2022 was postponed to be delivered in 2023

As KAI practitioners, members of CCPS are able to deliver KAI workshops and charge a fee to recover costs of the KAI, effort, and travel. The following table presents the gross income associated with delivery of KAI workshops.

	2021	2022
KAI Workshops	\$4,250	\$14,377

Website, Media, and Social Media Analytics

Core members of CCPS work to help develop and edit online materials promoting KAI on the KAI Foundation website. These materials include popular press articles, blog posts, videos, and podcasts. The following tables represent hits

The top ten KAI Foundation website pages accessed include the following (not counting KAI practitioner user account pages):

Top Five Website Pages	Views	Visitors
KAI - Kirton Adaption-Innovation Inventory - cognitive style measure	10,961	7,025
About KAI - Kirton Adaption-Innovation Inventory helps build better teams	2,416	1,701
Events All - KAI	682	260
KAI Symposium 2023 Speakers & Topics	617	352
KAI Accreditation Course - KAI	588	464

Note. Data collected from the KAI Foundation. Includes visits from over 50 countries.



Website and Social Media Analytics (continued)

Among website resources, include blog posts, videos, precis of popular press articles, case studies, and summaries of research. The next table lists the top five webpages viewed among the resources promoting KAI.

Top Five Resource Pages	Views	Visitors
Kirton's theory in R&D management - a problem solving leader's report	351	128
Valuing cognitive diversity and ADHD in the workplace	310	181
Creating Advantage and Profit Using Kirton's Theory and KAI	208	110
Why do some people disengage from a group or choose to leave it?	205	178
The Reliability and Use of KAI with Teenagers - KAI	200	162

Note. Data collected from the KAI Foundation

The KAI Foundation has two podcast series: The Foundation Five, serving as an introductory to KAI, and a topical list of podcasts based on a variety of applications and contexts. The top five podcasts listened to, include:

Top Five Podcast Episodes	Published Date	Listens
Foundation Five - Episode 1 - From Cave Dwellers to Cosmonaut	7-9-2020	158
Foundation Five - Episode 2 -Big Problems need Better Teams - KAI	7-16-2020	157
<u>Using KAI in Product Development - KAI</u>	4-28-2021	154
Mental Health and Wellbeing - How KAI can help - KAI	9-21-2021	152
Foundation Five - Episode 3 -Welcome to the Land of the Big Idea	9-29-2020	119

Note. Data collected from the KAI Foundation.

The KAI Foundation and CCPS work with HeadOn PR, a public relations firm, to publish material related to KAI in trade magazines, and online platforms. The following five articles were published in 2022 s having the top subscription rate of the publication outlet.

Top Five Published Articles by Subscription Rate	Outlet	Date	Subscribers
Five Things Business Leaders Can Do to Create A	Authority	April, 2022	500,000
Fantastic Work Culture	Magazine		
How your preference for structure can affect mental	Unleash	June 2022	65,000
wellbeing at work		June, 2022	65,000
Enhancing leadership by promoting coping behavior	Training Zone	Sept. 2022	17,000
A problem Shared	The HR Director	Jan. 2022	10,500
The real reasons why your ideas at work are rejected	Worklife	Sept. 2022	4,000

Note. Data collected from the KAI Foundation.

In 2022, CCPS started a LinkedIn corporate page to share information about CCPS events and KAI materials (see https://www.linkedin.com/company/center-for-cooperative-problem-solving/). At the end of 2022, the corporate page had 421 followers.



Future Directions

Growth in KAI Accreditation Course Enrollment:

Much work in 2022 has been placed on updating KAI materials, which includes updates to the KAI Feedback Report, KAI Manual, and curriculum for the KAI Accreditation Course to deliver an online, two-week, blended-learning design. It is believed that this new online design will create a more positive and improved learning experience, as well as reduce the barrier of entirely leaving work for an onsite course. Moving forward, a more concerted effort towards recruitment for the KAI Accreditation Course is needed. This includes building relationships with businesses, community leaders, academics, and consultants to leverage the Virginia Tech campuses in Riva San Vitale, Switzerland, and Chennai, India.

KAI Circle of Practice:

In 2022, a conversation began to start a KAI Circle of Practice to help facilitate conversations and professional development of KAI practitioners around the world. The proposed structure would start in 2023 as a paid membership service, and enable KAI practitioners to learn from each other and grow in their use of the KAI and A-I theory.

Research and Research Agenda:

More research is needed, and at a larger scale, to support the academic rigor of the KAI. Topics outlined for developing a KAI research agenda include the science-of-teams, health, mental wellbeing, neuroscience, leading diversity, organizational change, and updates to the KAI as a psychometric. It is anticipated to have a KAI research agenda to share publicly in 2024.

External Funding:

In 2022, there was a total of \$881,384 in funding requests made in two federal grant proposals. Unfortunately, these two proposals were not funded. More effort will be placed on seeking external funding in the future, including resubmissions and exploring additional funding sources.

Facilitation and Planning:

As CCPS envisions the future, it is clear that aspects of A-I theory, even without delivery of the KAI assessment, underpins Extension practice related to convening and facilitating programmatic efforts and planning. Under an umbrella of Facilitation and Planning, VCE faculty engaged in delivering capacity-building trainings related to existing Strengthening Your Facilitation Skills (SYFS), Building Your Virtual Facilitation Skills (BYVFS), and Strategic and Project Planning: Being Agents of Change (SPP) courses will have professional effort connected with the greater goals of CCPS to further develop the communities we serve.

Future Annual Reports

It is intended that future CCPS annual reports be shared with the KAI Network during the annual KAI Symposium, held during the third week of February.

