Keith Black, Ph.D., CAIA, CFA, FDP Managing Director, Program Director, FDP Institute

Keith Black has over thirty years of financial market experience, serving approximately half of that time as an academic and half as a trader and consultant to institutional investors. He currently serves as Managing Director and Program Director for the FDP Institute.

He previously was the Managing Director of Content Strategy at the CAIA Association, where he was a co-author of the second, third, and fourth editions of the level I and II CAIA curriculum. At Ennis Knupp + Associates, Keith advised foundations, endowments and pension funds on their asset allocation and manager selection strategies in hedge funds, commodities, and managed futures. Prior experience includes commodities derivatives trading, stock options research and Cboe floor trading, and building quantitative stock selection models for mutual funds and hedge funds. Dr. Black previously served as an assistant professor and senior lecturer at the Illinois Institute of Technology.

He has contributed to the CFA Digest, and has published in The Journal of Wealth Management, The Journal of Trading, The Journal of Investing, and The Journal of Alternative Investments, among others. Dr. Black was named to the Institutional Investor magazine's list of "Rising Stars of Hedge Funds" in 2010.

Dr. Black earned a BA from Whittier College, an MBA from Carnegie Mellon University, and a PhD from the Illinois Institute of Technology. He has earned the Chartered Financial Analyst (CFA) designation and was a member of the inaugural class of both CAIA and FDP members.

Implementing Models using Traditional Data and Alternative Data in Public and Private Equity Markets

Quantitative investors have long used traditional data sources, such as income statements and balance sheets of public firms, to drive stock selection models. With the explosion in the amount and diversity of data in the last five years, alternative data sources are quickly revolutionizing quantitative investing. Alternative data sources can include natural language processing of news and social media content, review of credit card transactions and consumer emails, and geolocation data using cell phone

signals and satellite images. Alternative data is more complex to process, moves in a different time frame than traditional data, and may provide a new window into information availability for private companies. Information on the Financial Data Professional (FDP) program will also be presented.

Cryptocurrencies and Digital Assets: Market Structure, Risks, and Opportunities
The digital asset market seeks an innovative solution to build a global, decentralized, and secure network that facilitates payments and other transactions. We will explore how proof-of-work, such as Bitcoin mining, and proof-of-stake protocols, such as Cardano, are used to secure networks and complete transactions. Behind many of these currencies are real businesses, such as Ethereum smart contracts that facilitate borrowing and lending as well as options and futures trading. Stablecoins pegged to USD or EUR can earn yields of up to 7% with minimal volatility. Returns and volatility data will be presented, as well as evidence on how digital assets can add return to a diversified portfolio without adding to portfolio volatility. Risks of digital assets will also be discussed, including regulatory risks, technology risk, and valuation risk.

Valuation Models for Cryptocurrencies and Digital Assets
There are currently over 11,000 cryptocurrencies and digital assets. With many experiencing price volatility of over 100% per year, or five times the volatility of stocks, there is substantial disagreement on how to value these assets. Some valuation models used for traditional equity valuation can be used to price these assets. Investors may also find it useful to understand business models, emerging industries, and oligopolistic models.

Commodities: Boom or Bust? The Case of a Strategic Allocation
Institutional investment in commodity futures programs has increased substantially in recent years. The attraction to commodities rests on the potential to hedge against increasing inflation, as well as the low correlation to stock and bond markets. There is concern, however, that increasing asset flows has led commodities to become more of a financial asset, which has increased the correlation of commodity returns to those financial markets. Ultimately, commodity prices are set by supply and demand, which differs over the course of the business cycle.

Private Equity Exit Strategies: IPOs, SPACS, Direct Listings, and Mergers
This presentation describes and compares the many ways that entrepreneurs and their private equity owners can exit their ownership in a private company. While IPOs have declined in importance in recent years, there has been an increase in strategic mergers, financial mergers, and secondary buyouts. More recently, a growing number of companies have sought to become publicly traded through direct listings and special purpose acquisition corporations (SPACs).

Portfolio Diversification Revisited: Lessons Learned from Previous Cycles
In a crisis, do all correlations converge to one? No! While the correlations of short volatility, convergent strategies do rise substantially in a crisis, there are a number of assets that can rise in value during a crisis. Assets showing the ability to hedge tail risk during times of crisis include sovereign debt, macro hedge funds, managed futures strategies, equity index put options and some form of volatility arbitrage.

Protecting your Portfolio from Inflation: The Case for Real Assets
Many investors are seeking to add assets to their portfolio that can be effective in hedging increasing rates of inflation. Assets that have been considered to hedge inflation risk include equities, real estate, commodity futures, farmland, timberland, inflation-linked bonds, infrastructure, and master limited partnerships. Each of these assets varies in its ability to hedge inflation risks, as well as in the liquidity provisions.

An Empirical Investigation of the CBOE Volatility Index (VIX) as a Hedge for Equity Market and Hedge Fund Investors
Adding long positions in the VIX index has proven effective at reducing the risk of long position in equity markets or hedge fund investments. Now that futures on the VIX index have been trading for more than five years, the data is available to evaluate the portfolio characteristics of adding position in the VIX futures to a portfolio. The cost and hedging effectiveness varies substantially with the contract selection within the VIX futures market.

Hedge Fund Investing: Developments in Hedge Fund Replication
First generation hedge fund replication consisted of measuring the factor risk of a hedge fund, and taking exposures in index tracking products to replicate those estimated exposures. In this case, replication with liquid products may forego earning the liquidity or complexity premia earned by many hedge fund strategies. Second generation replication products seek to mimic hedge fund strategies by investing in an indexed version of the underlying hedge fund strategy, such as taking long-short positions in stocks to replicate a merger arbitrage strategy. The betas of hedge fund strategies are decomposed into traditional betas, exotic betas, while “alpha” is explained through liquidity, complexity, leverage, events risks, security selection and market timing. The State of Alternative Investments: A Global View The world of alternative investments continues to grow and change. Nearly $10 trillion in assets have flowed into the alternative investment industry in the last fifteen years. Now AI is starting to show up in mutual funds and ETFs. What might the future hold

The State of Alternative Investments: A Global View
The world of alternative investments continues to grow and change. Nearly $10 trillion in assets have flowed into the alternative investment industry in the last fifteen years. Now AI is starting to show up in mutual funds and ETFs. What might the future hold?

The Investment Practices of Sovereign Wealth Funds
There has been tremendous growth in the AUM and breadth of the sovereign wealth industry in recent years, with over 25 new funds being established since 2007, while assets have grown from $3 trillion in 2008 to over $7 trillion in 2015. What does the oilfunded Norway fund have in common with the FX-funded China Investment Corporation? How are SWFs allocating assets to alternative investments and what does this bode for the future of the alternative investment industry? What are the different types of SWFs, and how do their goals and source of income influence their asset allocation?

Adjusting Asset Allocation Models for the Smoothing and Higher Moments Exposures of Alternative Investments

The pitfalls of using mean-variance optimization with alternative investments are welldocumented. Given that mean-variance models focus on the maximization of returns given a desired level of portfolio variance, higher moments such as skewness and kurtosis are typically not considered. When portfolios contain assets where returns are calculated using an appraisal-based methodology or illiquid securities, the stated returns may understate volatility and the correlation between these assets and more liquid portfolio holdings. Portfolio allocations with standard and modified allocation models will be presented