Allan T. Ingraham, Ph.D.

Managing Director

Contact Details

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Professional History

- Secretariat Economists
- Economists Incorporated
- Navigant Economics, LLC
- Empiris, LLC
- Criterion Auctions
- University of Maryland, Research Assistant
- U.S. Food and Drug Administration, Industry Economist

Education

- Ph.D., Economics, University of Maryland
- M.A., Economics, University of Maryland
- B.A., Economics, Colby College

Current Position

Dr. Ingraham is a Managing Director with Secretariat Economists.

Professional Experience

Allan T. Ingraham is an expert on auctions, corporate strategy, and econometrics. He has applied this expertise to auctions for radio spectrum and electricity, the detection of bid-rigging and market manipulation, the analysis of various issues of corporate finance, and collective bargaining.

Dr. Ingraham has provided strategic advice to participants in dozens of high stakes auctions worldwide. His auction clients achieve market positions similar to or superior to their primary rivals while typically paying less than those rivals. He has also studied competition and regulation in the markets for both wireline and wireless communications. Dr. Ingraham has testified on issues relating to radio spectrum licensing and auction competition and the accuracy of statistical predictors. He has also developed financial models that have been used for collective bargaining in professional sports.

Dr. Ingraham has written scholarly articles on the detection of bid-rigging, the taxation and regulation of telecommunications services, the determinants of broadband adoption both worldwide and in the United States, and the effects of different auction design components on market outcomes. He has published articles in Contributions to Economic Analysis and Policy, Review of Network Economics, Yale Journal on Regulation, Topics in Economic Analysis and Policy, Telecommunications Policy, Canadian Journal of Law and Technology, and Virginia Tax Review.

Dr. Ingraham earned M.A. and Ph.D. degrees in economics from the University of Maryland, College Park and a B.A., with honors in economics, from Colby College.

Representative Engagements

Market Design and Strategic Consulting in Auction Markets

- Advice to AT&T Mexico relating to the auction for residual spectrum (2021)
- Advice to AT&T relating to US Auction 110 (2021)
- Advice to AT&T relating to US Auction 108 (2021)
- Advice and support to Shaw Communications relating to the 3500 MHz auction in Canada (2020-2021).
- Advice to AT&T relating to FCC auction 107 (2018-2021)
- Advice and support to Starry relating to the RDOF market for universal service (2020).
- Advice to AT&T relating to FCC auctions 105 (2020).
- Strategic support, bid preparation, and advisory work for AT&T relating to FCC auctions 103 (2017 to 2020).
- Advice to Shaw & Freedom Wireless relating to the 3500 MHz spectrum band in Canada, 2019 to present.
- Advice to Shaw & Freedom Wireless relating to the 600 MHz CCA in Canada (2017-2018).
- Advice to AT&T relating to FCC auction 101 (2018).
- Advice to Shaw & Freedom Wireless relating to the residual auction of 2500 MHz and 700 MHz spectrum in Canada (2018).
- Advice to BT/EE relating to auction design and coverage/subsidy auctions (2018).
- Advice to BT/EE relating to the auction for 2.3 GHz and 3.4 GHz spectrum in the United Kingdom (2018).
- Advice to AT&T relating to reverse auctions for Connect America Funding and Mobility Funding (2018).
- Advice to AT&T Mexico relating to the auction for 2.6 GHz spectrum (2018).
- Advice to Freedom Mobile relating to the residual auction for 2.6 GHz spectrum in Canada (2017-2018).
- Advice to StarHub relating to the Singapore auction for 700, 900, and 2100 MHz spectrum (2016-2017).

- Advice to AT&T relating to the U.S. broadcast incentive auction (2016-2017).
- Advice to FarEasTone relating to the Taiwanese auction for 2.6 GHz spectrum (2015).
- Advice to WIND Mobile relating to the Canadian auction for AWS-3 spectrum (2015).
- Advice to WIND Mobile relating to the Canadian auction for 2.6 GHz spectrum (2015).
- Advice to AT&T relating to Mexico's tender for AWS-3 spectrum (2015).
- Advice to AT&T in connection with the FCC's AWS-3 spectrum award in the United States (2014-2015).
- Advice to Ufone relating to Pakistan's 3G and LTE spectrum award (2014).
- Advice to T-Mobile US in connection with repacking and encumbrance in the 600-700 MHz band in the United States (2013-2014).
- Advice to FarEasTone in preparation for and during the Taiwan LTE auction, July 2013 to October 2013.
- Advice to CSL in preparation for the supplementary Hong Kong 2.6 GHz auction, February to March 2013.
- Advice to EE in preparation for the UK LTE auctions, February 2011 to March 2013.
- Advice to NII Holdings and Nextel Argentina in preparation for the 800 MHz and 1.9/2.1 GHz Auction, June 2010.
- Advice to ONO in preparation for and during the Spanish LTE Auction, April to July 2011.
- Advice to NII Holdings and Nextel Brazil in preparation for the 2010 H Band Auction, 2010.
- Advice to T-Mobile US on auction design, December 2008.
- Advice to CSL on auction strategy in Hong Kong's 2.6 GHz auction, January 2009.
- Advice to Telenor on auction strategy, December 2008-January 2009.
- Advice to Globalive Communications Corp. in preparation for Canada's AWS spectrum auction, April 2008 to August 2008.
- Advice to NII Holdings and Nextel Mexico in preparation for the 1.9 GHz and 1.7/2.1 GHz spectrum auctions in Mexico, December 2007 to October 2010.
- Advice to AT&T relating to the U.S. 700 MHz Auction, December 2007-February 2008.

- Advice to T-Mobile UK relating to the 10-40 GHz Auctions, June 2007 to February 2008.
- Advice to NII Holdings and Nextel Brazil in preparation for the 1.9 GHz Auction in Brazil, August 2007 to December 2007.
- Administration of DONG auction for Natural Gas, February 2007 to March 2007.
- Advice to NII Holdings and Nextel Brazil in preparation for the 3.5 GHz Auction in Brazil, August 2006 to October 2006.
- Advice to T-Mobile USA in preparation for the FCC's Advanced Wireless Services Auction, April 2006 to September 2006.
- Provided simulation tools to ISO New England in connection with the Market for Forward Reserves, 2005-2006.
- Design and Implementation of the Telecommunications Authority of Trinidad & Tobago Spectrum Auction, March 2005 to June 2005.
- Provided strategic advice, bid-tracking software, and on-site support to Nextel Mexico in connection with Mexico's 800 MHz auctions and PCS auction, 2004-2005.
- Provided bid-tracking tools and on-site support for the mock auction landing slots at LaGuardia airport, February to March 2005.
- Provided review of auction rules, strategic advice, bid-tracking software, auction simulator, and market analysis tools to PSEG before and during New Jersey's BGS auctions, 2001-2005.
- Provided strategic advice and bid-tracking software to Poundradio during Ofcom's 3.4 GHz Spectrum Auction, June 2003.
- Provided strategic advice and comments on auction rules to ArrayComm in preparation for FCC Auction #46, 2001-2002.
- Provided strategic advice and bid-tracking software to Space Data Spectrum Holdings, LLC during the FCC's PCS Narrowband Auction, 2001.
- Provided bid-tracking software for Cellcom during Israel's PCS auction, 2001.
- Provided strategic advice, on-site support, and bid-tracking software to Access Spectrum during the 700 MHz Guard Band Auction Re-Auction—FCC Auction 38, 2001.
- Provided bid-tracking software to Burst Wireless during FCC Auction #35, 2001
- Provided mock auction simulator, bid-tracking tool, and strategic advice to FirtMark in preparation for Ofcom's WLL Auction, 2000.

- Provided strategic advice, on-site support, and bid-tracking software to Access Spectrum during the 700 MHz Guard Band Auction—FCC Auction #33, 2000.
- Provided bid-tracking software and auction simulation tools to One2One during the UK 3G Wireless Auction, 2000.
- Provided strategic advice, bid-tracking software, and auction website support to Stream Intelligent Networks during Industry Canada's 24-38 GHz Auction, 1999.

Expert Testimony and Commissioned Research

- Comments on the Design of the Rural Digital Opportunities Fund, Phase I Auction, (with James Bono, Shreyas Ravi, and Christopher Sojourner, 2019).
- An Analysis of Allocation Phase Pricing and Clock Round Price Increases in the Canadian 600 MHz Auction, (with James Bono, Shreyas Ravi, Christopher Sojourner, and William Schwartz, 2019).
- Rationalizing the 3.4-3.8 GHz Spectrum in the United Kingdom (with James Bono); commissioned by BT and submitted to Ofcom, November 2018.
- An Auction Design for Millimeter Wave Spectrum (with James Bono); commissioned by AT&T and submitted to the Federal Communications Commission, November 2017.
- Supplemental Declaration of Robert W. Crandall, Everett M. Ehrlich, Jeffery A. Eisenach, and Allan T. Ingraham Regarding the Berkman Center Study, Federal Communications Commission, GN Docket No. 09-47 (May 2010).
- Declaration of Allan T. Ingraham on behalf of Sharon Dougherty, In Sharon Dougherty v Thomas J. Dougherty (Circuit Court of Fairfax August 2008) (Case No. CL 2007-0008757).
- Declaration of Allan T. Ingraham on behalf of AT&T, In the Matter of Rulemaking into the Review of the California High Cost Fund B Program, before the Public Utilities Commission of the State of California, R. 06-06-028 (June 2008).
- Declaration of Allan T. Ingraham and Hal J. Singer on behalf of Mid Atlantic Sports Network, In the Matter of Mid Atlantic Sports Network, Claimant, v. Time Warner Inc., Respondent, before the American Arbitration Association, Case No. 12 494 E 000326 07 (May 2008).
- Declaration of Allan T. Ingraham and Hal J. Singer on behalf of the Consumer Coalition for Competition in Satellite Radio, In the Matter of Sirius Satellite Radio, Inc. and XM Satellite Radio, Inc., Applications for Approval of Transfer of Control, Federal Communications Commission, MB Dkt. 07-57 (Feb. 27, 2008).
- Rebuttal Report of Allan T. Ingraham on behalf of Lead Plaintiff, In Apollo Group, Inc. Securities Litigation (D. Arizona. Dec. 2006) (Lead Case No. CV 01-2147-PHX-JAT)

- Expert Report of Allan T. Ingraham on behalf of Lead Plaintiff, In Apollo Group, Inc. Securities Litigation (D. Arizona. Oct. 2006) (Lead Case No. CV 01-2147-PHX-JAT)
- Rebuttal Testimony of Allan T. Ingraham on Behalf of the Newspaper Association of America, Before the Postal Rate Commission, Washington, DC (Docket No. R2006-1).
- Direct Testimony of Allan T. Ingraham on Behalf of the Newspaper Association of America, Before the Postal Rate Commission, Washington, DC (Docket No. R2006-1).
- Expert Declaration of Allan T. Ingraham on behalf of Coventry First, In Coventry First LLC v. 21st Services (D. Penn. Dec. 2005) (Civil Action No. 04-05293-PBT).
- The Static and Dynamic Inefficiency of Abandoning Unrestricted Auctions for Spectrum: A Critique of Professor Wilkie's Analysis of the M2Z Proposal (prepared for CTIA and submitted to the FCC, August 2008), Co-authored with Robert W. Hahn, J. Gregory Sidak, and Hal J. Singer.
- The Relevance of Recent United Kingdom Telecommunications Policy to the Policy Choices in Canada, (prepared for Telus, July 2007), Co-authored with Robert Crandall.
- The Economic Effects of Spectrum Set-Asides (prepared for Telus, May 2007), Co- authored with Robert Crandall.
- Productivity and Value of Players in the NBA between the 1999-2000 and 2005-2006 Seasons (prepared for the Commissioner's Office of the National Basketball Association April 2006), co-authored with Peter Cramton and Jeff West.
- Analysis of NHTSA's August 2005 Notice of Proposed Rulemaking to Revise the CAFE Standards for Light Trucks (prepared for General Motors Corp. Nov. 2005), co-authored with Robert W. Crandall and Hal J. Singer.
- Changes in the Level of Equality in Player Salary Between the 1996-1997 and 2005-2006 NBA Seasons (prepared for the Commissioner's Office of the National Basketball Association Oct 2005), co-authored with Peter Cramton and Jeff West.
- How Do Consumers and the Auto Industry Respond to Changes in Exhaust Emission and Fuel Economy Standards? A Critique of Burke, Abeles, and Chen (prepared for General Motors Corp. Sept. 21, 2004), co-authored with Robert W. Crandall and Hal J. Singer.
- Inter-City Competition for Retail Trade in North Texas: Can a TIF Generate Incremental Tax Receipts for the City of Dallas? (prepared for Harvest Partners July 16, 2004), co- authored with Thomas G. Thibodeau and Hal J. Singer.
- An Analysis of Auction Volume and Market Competition for the Coastal Forest Regions in British Columbia (prepared for the British Columbia Ministry of Forests Sept. 2002), co-authored with Susan Athey and Peter Cramton.

- Setting the Upset Price in British Columbia Timber Auctions (prepared for the British Columbia Ministry of Forests Sept. 2002), co-authored with Susan Athey and Peter Cramton.
- Auctioning Timber to Maximize Revenues (prepared for the British Columbia Ministry of Forests June 2002), co-authored with Susan Athey and Peter Cramton.
- Auction Based Timber Pricing and Complementary Market Reforms (prepared for the British Columbia Ministry of Forests March 2002), co-authored with Susan Athey and Peter Cramton.
- The Effect of Auction Structure on the Winning Bidder and License Price (prepared for ArrayComm March 2001).

Publications

- *The Long-Run Effects of Copper-Loop Unbundling and the Implications for Fiber*, 37 TELECOMMUNICATIONS POLICY (with Robert Crandall and Jeffrey Eisenach, 2013).
- *The Effects of Legacy Pricing Regulation on Adoption of Broadband Service in the United States*, 11 REVIEW OF NETWORK ECONOMICS, De Gruyter, no. 4, (with Debra Aron, 2011).
- *The Adverse Economic Effects of Spectrum Set-Asides*, reprinted in SPECTRUM LAW AND REGULATIONS (IUP Press, 2008).
- *The Effects of Incumbent Bidding in Set-Aside Auctions: An Analysis of Prices in the Closed and Open Segments of FCC Auction 35*, 32 TELECOMMUNICATIONS POLICY, (with Peter Cramton and Hal Singer, 2008).
- *The Adverse Economic Effects of Spectrum Set-Asides*, 6 CANADIAN J. OF LAW & TECHNOLOGY, (with Robert Crandall, 2007)
- *A Fair Posting Process for Japanese Professionals Entering Major League Baseball* 24 ENTERTAINMENT AND SPORTS LAWYER (2007).
- *A Test for Collusion between a Bidder and an Auctioneer in Sealed-Bid Auctions* 4 CONTRIBUTIONS TO ECON. ANAL. & POL. (2005).
- *Do States Tax Wireless Services Inefficiently? Evidence on the Price Elasticity of Demand* 23 VIRGINIA TAX R. (with J. Gregory Sidak, 2004).
- *Do Unbundling Policies Discourage CLEC Facilities-Based Investment?, Topics in Economic Analysis & Policy Section*, 4 TOPICS IN ECON. ANAL & POL. (with Robert W. Crandall and Hal J. Singer, 2004).
- *Mandatory Unbundling*, UNE-P, and the Cost of Equity: Does TELRIC Pricing Increase Risk for Incumbent Local Exchange Carriers? 20 YALE J. ON REG. 389 (with J. Gregory Sidak, 2003).

Working or Recreational Papers

- *Analysis of the UK LTE Auction*, April 2013 (with William Schwartz)
- *An Agent-Based Computational Model of a Media Market*, January 2010 (with Oleg Smirnov).
- *Improving Public Safety Communications: An Analysis of Alternative Approaches*, (with P. Cramton, T. Dombrowsky, J.Eisenach, H. Singer) Criterion Economics, LLC, February 6, 2007
- *Inter-City Competition for Retail Trade: Can Tax Increment Financing Generate Incremental Tax Receipts?*, July 2005 (with Hal J. Singer and Thomas G. Thibodeau).
- *A Methodology for Evaluating Production in Football: An Armchair Quarterback's Rating System*, June 2005.
- *Equilibrium Bidding in the Presence of Bidder-Auctioneer Cheating*, Dec. 2001.

Refereed Journals

- BE Journals in Economics Analysis and Policy
- Journal of Quantitative Analysis in Sports
- Journal of Regulatory Economics
- Telecommunications Policy
- Journal of Competition Law & Economics

Honors and Awards

- Distinguished Teacher's Assistant, University of Maryland, 1999-2000.
- Economics Department Teaching Award, University of Maryland, Fall 1997.
- Phi Beta Kappa Society, elected May 1996.
- Colby College Faculty Award in Economics, April 1996.