



# JACC

## EDITORIAL BOARD

### JOURNAL of the AMERICAN COLLEGE of CARDIOLOGY

<b>Editor-in-Chief</b>	<b>Anthony N. DeMaria, MD, MACC, San Diego, CA</b>				
<b>Deputy Editors</b>	<b>Wilbur Y. W. Lew, MD, FACC, La Jolla, CA</b>	<b>Sotirios Tsimikas, MD, FACC, La Jolla, CA</b>			
<b>Associate Editors</b>	<b>Eric D. Adler, MD, San Diego, CA</b> <b>Jeroen J. Bax, MD, PhD, FACC, Leiden, the Netherlands</b> <b>Ori Ben-Yehuda, MD, FACC, New York, NY</b> <b>Christopher P. Cannon, MD, FACC, Boston, MA</b> (Associate Editor for iPad Edition) <b>Gregory K. Feld, MD, FACC, San Diego, CA</b> <b>Barry H. Greenberg, MD, FACC, La Jolla and San Diego, CA</b> <b>Jennifer L. Hall, PhD, FACC, Minneapolis, MN</b> <b>Mark A. Hlatky, MD, FACC, Stanford, CA</b> <b>Spencer B. King III, MD, MACC, Atlanta, GA</b> (Editor-in-Chief, JACC: Cardiovascular Interventions) <b>Kirk U. Knowlton, MD, FACC, La Jolla, CA</b> <b>João A. C. Lima, MD, FACC, Baltimore, MD</b>	<b>Ehtisham Mahmud, MD, FACC, La Jolla, CA</b> <b>Alan S. Maisel, MD, FACC, La Jolla, CA</b> <b>Sanjiv M. Narayan, MD, FACC, La Jolla and San Diego, CA</b> <b>Jagat Narula, MD, PhD, MACC, New York, NY</b> (Editor-in-Chief, JACC: Cardiovascular Imaging) <b>Christopher M. O'Connor, MD, FACC, Durham, NC</b> (Editor-in-Chief, JACC: Heart Failure) <b>Ajit B. Raisinghani, MD, FACC, San Diego, CA</b> (State-of-the-Art Papers and CME) <b>David J. Sahn, MD, MACC, Portland, OR</b> <b>Neil W. Siecke, MD, FACC, Edmonds, WA</b> (Inside This Issue) <b>James D. Thomas, MD, FACC, Cleveland, OH</b>			
<b>Statistical Editors</b>	<b>Paul L. Clopton, MS, La Jolla, CA</b>	<b>James D. Knoke, PhD, San Diego, CA</b>			
<b>Executive Editor Senior Managing Editor</b>	<b>Glenn Collins, San Diego, CA</b> <b>Cari Martin, San Diego, CA</b>				
<b>Senior Consulting Editors</b>	<b>Kenneth R. Chien, MD, Boston, MA</b> <b>Michael H. Criqui, MD, La Jolla, CA</b> <b>Bernard J. Gersh, MB, ChB, DPhil, FACC, Rochester, MN</b> <b>Geoffrey S. Ginsburg, MD, PhD, FACC, Durham, NC</b> <b>H. Kirk Hammond, MD, La Jolla, CA</b>	<b>Paul Insel, MD, La Jolla, CA</b> <b>Stuart W. Jamieson, MBBS, FACC, San Diego, CA</b> <b>Steven E. Nissen, MD, MACC, Cleveland, OH</b> <b>Lewis J. Rubin, MD, La Jolla, CA</b> <b>Joseph Witztum, MD, La Jolla, CA</b>			
<b>Senior Advising Editors</b>	<b>Eugene Braunwald, MD, MACC, Boston, MA</b> <b>Thomas P. Graham, Jr., MD, FACC, Nashville, TN</b>	<b>Robert H. Jones, MD, FACC, Durham, NC</b>			
<b>Immediate Past Editor-in-Chief</b>	<b>William W. Parmley, MD, MACC, San Francisco, CA</b>				
<b>Founding Editor</b>	<b>Simon Dack, MD, FACC, deceased</b>				
<b>Editorial Consultants</b>	<b>J. Abe, MD, PhD, Rochester, NY</b> <b>T. P. Abraham, MD, Baltimore, MD</b> <b>S. Achenbach, MD, Giessen, Germany</b> <b>J. B. Agarwal, MD, New Brunswick, NJ</b> <b>M. Aikawa, MD, Boston, MA</b> <b>C. Alexander, MD, West Point, PA</b> <b>F. Alfonso, MD, Madrid, Spain</b> <b>M. Al-Mallah, MD, Riyadh, Saudi Arabia</b> <b>M. A. Alpert, MD, Columbia, MO</b> <b>H. V. Anderson, MD, Houston, TX</b> <b>J. Anderson, MD, Murray, UT</b> <b>K. P. Anderson, MD, Marshfield, WI</b>	<b>T. J. Anderson, MD, Calgary, Alberta, Canada</b> <b>D. Angiolillo, MD, PhD, Jacksonville, FL</b> <b>D. Antoniucci, MD, Florence, Italy</b> <b>C. Antzelevitch, PhD, Utica, NY</b> <b>R. J. Applegate, MD, Winston-Salem, NC</b> <b>A. E. Arad, MD, Bethesda, MD</b> <b>J. Aranda, Jr., MD, Gainesville, FL</b> <b>A. Arbab-Zadeh, MD, PhD, Baltimore, MD</b> <b>E. Arbustini, MD, Pavia, Italy</b> <b>P. Aukrust, MD, Oslo, Norway</b> <b>A. Avogaro, MD, Padova, Italy</b> <b>D. S. Bach, MD, Ann Arbor, MI</b>	<b>R. G. Bach, MD, St. Louis, MO</b> <b>C. Backer, MD, Chicago, IL</b> <b>J. Badimon, PhD, New York, NY</b> <b>S. Balaji, MBBS, MRCP, PhD, Portland, OR</b> <b>A. Barac, MD, Washington, DC</b> <b>J. Bartunek, MD, PhD, Aalst, Oost-Vlaanderen, Belgium</b> <b>T. Bashore, MD, Durham, NC</b> <b>E. R. Bates, MD, Ann Arbor, MI</b> <b>R. C. Becker, MD, Durham, NC</b> <b>B. Belhassen, MD, Tel-Aviv, Israel</b> <b>G. A. Beller, MD, Charlottesville, VA</b>		

---

**EDITORIAL CONSULTANTS** *continued*

- F. Bengel, MD, *Hannover, Germany*  
D. W. Benson, MD, PhD, *Cincinnati, OH*  
M. E. Bertrand, MD, *Lille, France*  
D. L. Bhatt, MD, *Cleveland, OH*  
L. M. Biasucci, MD, *Rome, Italy*  
N. H. Bishopric, MD, *Miami, FL*  
J. A. Bittl, MD, *Ocala, FL*  
V. A. Bittner, MD, MSPH, *Birmingham, AL*  
E. H. Blackstone, MD, *Cleveland, OH*  
B. Blaxall, PhD, *Rochester, NY*  
D. Bluemke, MD, PhD, *Bethesda, MD*  
J. S. Borer, MD, *New York, NY*  
B. Bozkurt, MD, *Houston, TX*  
S. J. Brener, MD, *Cleveland, OH*  
M. Brignole, MD, *Genoa, Italy*  
C. Briguori, MD, PhD, *Naples, Italy*  
J. Brinker, MD, *Baltimore, MD*  
B. C. Brott, MD, *Birmingham, AL*  
A. V. G. Brusckie, MD,  
    *Leiden, the Netherlands*  
M. J. Budoff, MD, *Torrance, CA*  
R. Bugiardini, MD, *Bologna, Italy*  
J. Butler, MBBS, *Nashville, TN*  
A. Buxton, MD, *Providence, RI*  
L. Cai, MD, PhD, *Louisville, KY*  
H. Calkins, MD, *Baltimore, MD*  
U. Campia, MD, *Washington, DC*  
B. A. Carabello, MD, *Houston, TX*  
D. S. Celermajer, MD, *Sydney, Australia*  
Y. Chandrashekhar, MD, DM,  
    *Minneapolis, MN*  
H. Chen, MB, *Rochester, MN*  
S-A. Chen, MD, *Taipei, Taiwan*  
B. Chow, MD, *Ottawa, Ontario, Canada*  
A. Chugh, MD, *Ann Arbor, MI*  
S. Chugh, MD, *Los Angeles, CA*  
A. Colombo, MD, *Milan, Italy*  
G. Condorelli, MD, *La Jolla, CA*  
C. R. Conti, MD, *Gainesville, FL*  
J. B. Conti, MD, *Gainesville, FL*  
F. G. Cosío, MD, *Madrid, Spain*  
D. Couper, PhD, *Chapel Hill, NC*  
M. H. Crawford, MD, *San Francisco, CA*  
A. B. Curtis, MD, *Buffalo, NY*  
G. D. Dangas, MD, PhD, *New York, NY*  
J. C. Daubert, MD, *Rennes, Cedex, France*  
J. P. Daubert, MD, *Rochester, NY*  
H. L. Dauerman, MD, *Burlington, VT*  
H. Dayi, MD, *Beijing, China*  
J. Deanfield, MB BChir,  
    *London, United Kingdom*  
B. De Bruyne, MD, PhD,  
    *Aalst, Oost-Vlaanderen, Belgium*  
G. W. Dec, MD, *Boston, MA*  
C. DeFelippi, MD, *Baltimore, MD*  
P. J. De Feyter, MD,  
    *Rotterdam, the Netherlands*  
J. De Lemos, MD, *Dallas, TX*  
V. Delgado, MD,  
    *Zuid Holland, the Netherlands*  
A. Deswal, MD, MPH, *Houston, TX*  
G. A. Diamond, MD, *Los Angeles, CA*  
S. Dixit, MBBS, *Philadelphia, PA*  
S. Dudley, MD, PhD, *Chicago, IL*  
J. Dupuis, MD, *Montreal, Quebec, Canada*  
K. Ellenbogen, MD, *Richmond, VA*  
S. G. Ellis, MD, *Cleveland, OH*  
M. Emdin, MD, *Pisa, Italy*  
T. R. Engel, MD, *Moorestown, NJ*  
M. Faddis, MD, PhD, *St. Louis, MO*  
W. F. Fearon, MD, *Stanford, CA*  
A. Feiring, MD, *Milwaukee, WI*  
J. Fleg, MD, *Bethesda, MD*  
N. Frangogiannis, MD, *Bronx, NY*  
A. Franke, MD, *Hanover, Germany*  
V. Fuster, MD, PhD, *New York, NY*  
E. Gerstenfeld, MD, MS,  
    *Philadelphia, PA*  
T. Geva, MD, *Boston, MA*  
L. D. Gillam, MD, *New York, NY*  
T. Gillebert, MD, *Ghent, Belgium*  
J. Goldstein, MD, *Royal Oak, MI*  
J. Gorcsan, MD, *Pittsburgh, PA*  
K. L. Gould, MD, *Houston, TX*  
C. B. Granger, MD, *Durham, NC*  
M. Grover-McKay, MD, *Newport Beach, CA*  
V. Guetta, MD, *Ramat-Gan, Israel*  
P. Gurbel, MD, *Baltimore, MD*  
M. Haissaguerre, MD, *Bordeaux, France*  
R. A. Harrington, MD, *Stanford, CA*  
E. P. Havranek, MD, *Denver, CO*  
P. A. Heidenreich, MD, *Stanford, CA*  
G. Heusch, MD, *Essen, Germany*  
B. D. Hoit, MD, *Cleveland, OH*  
S. Homma, MD, *New York, NY*  
H. Hsia, MD, *Stanford, CA*  
H. V. Huikuri, MD, *Oulu, Finland*  
W. G. Hundley, MD, *Winston-Salem, NC*  
A. E. Iskandrian, MD, *Birmingham, AL*  
A. S. Jaffe, MD, *Rochester, MN*  
J. Januzzi, MD, *Boston, MA*  
B. Jugdutt, MB, ChB,  
    *Edmonton, Alberta, Canada*  
J. M. Kalman, MD, *Victoria, Australia*  
A. Kastrati, MD, *Munich, Germany*  
E. S. Kaufman, MD, *Cleveland, OH*  
S. Kaul, MBBS, *Los Angeles, CA*  
S. Kaul, MBBS, *Portland, OR*  
D. J. Kerejakes, MD, *Cincinnati, OH*  
M. J. Kern, MD, *Orange, CA*  
M. H. Kim, MD, *Providence, RI*  
R. J. Kim, MD, *Durham, NC*  
M. Kitakaze, MD, PhD, *Osaka, Japan*  
N. S. Kleiman, MD, *Houston, TX*  
F. J. Klocke, MD, *Chicago, IL*  
B. P. Knight, MD, *Chicago, IL*  
S. Konstantinides, MD,  
    *Alexandroupolis, Greece*  
C. M. Kramer, MD, *Charlottesville, VA*  
H. F. Kuecherer, MD,  
    *Heidelberg, Germany*  
A. J. Labovitz, MD, *St. Louis, MO*  
C. Lam, MD, *St. Louis, MO*  
R. Lampert, MD, *New Haven, CT*  
W. Laskey, MD, *Albuquerque, NM*  
C. J. Lavie, MD, *New Orleans, LA*  
C. Leclercq, MD, *Cedex, France*  
R. Lee, MD, PhD, *San Francisco, CA*  
J. Leor, MD, *Tel-Hashomer, Israel*  
E. Lev, MD, *Tel-Aviv, Israel*  
W. C. Levy, MD, *Seattle, WA*  
B. S. Lewis, MD, *Haifa, Israel*  
C-s. Liang, MD, *Boston, MA*  
J. Lindenfeld, MD, *Denver, CO*  
G. Y. H. Lip, MD,  
    *Birmingham, United Kingdom*  
S. Litwin, MD, *Salt Lake City, UT*  
F. Lombardi, MD, *Milan, Italy*  
D. Losordo, MD, *Chicago, IL*  
C. A. MacRae, MBChB, PhD, *Boston, MA*  
D. L. Mann, MD, *St. Louis, MO*  
W. J. Manning, MD, *Boston, MA*  
M. S. Marber, MBBS,  
    *London, United Kingdom*  
G. Marcus, MD, *San Francisco, CA*  
M. Maron, MD, *Boston, MA*  
T. H. Marwick, MD, PhD, *Cleveland, OH*  
M. Matsuzaki, MD, PhD,  
    *Yamaguchi, Japan*  
P. A. McCullough, MD, MPH, *Novi, MI*  
J. L. Mehta, MD, PhD, *Little Rock, AR*  
P. Menasché, MD, *Paris, France*  
F. Messerli, MD, *New York, NY*  
L. Mestroni, MD, *Aurora, CO*  
R. Mills, MD, *Raritan, NJ*  
S. Mittal, MD, *New York, NY*  
F. Morady, MD, *Ann Arbor, MI*  
D. A. Morrow, MD, MPH, *Boston, MA*  
J. W. Moses, MD, *New York, NY*  
A. J. Moss, MD, *Rochester, NY*  
C. Mueller, MD, *Basel, Switzerland*  
T. F. Muenzel, MD, *Mainz, Germany*  
J. B. Muhlestein, MD, *Murray, UT*  
T. Murohara, MD, *Nagoya, Japan*  
S. F. Nagueh, MD, *Houston, TX*  
T. Z. Naqvi, MBBS, *Los Angeles, CA*  
A. Natale, MD, *Austin, TX*  
S. Nicholls, MBBS, PhD,  
    *Cleveland, OH*  
E. M. Ohman, MD, *Durham, NC*  
K. Ohmori, MD, *Kagawa, Japan*  
B. Olshansky, MD, *Iowa City, IA*  
S. Ommen, MD, *Rochester, MN*  
H. Oral, MD, *Ann Arbor, MI*  
R. A. O'Rourke, MD, *San Antonio, TX*  
A. Oto, MD, *Ankara, Turkey*  
W. Palinski, MD, *La Jolla, CA*  
C. Pappone, MD, *Milan, Italy*  
P. A. Pellikka, MD, *Rochester, MN*  
D. J. Pennell, MD,  
    *London, United Kingdom*  
W. F. Penny, MD, *La Jolla, CA*  
E. Picano, MD, *Pisa, Italy*  
M. Pitzalis, MD, *Greenville, NC*  
M. Price, MD, *La Jolla, CA*  
S. G. Priori, MD, *Pavia, Italy*  
S. H. Rahimtoola, MD, *Los Angeles, CA*  
M. Raitt, MD, *Portland, OR*  
H. Rakowski, MD,  
    *Toronto, Ontario, Canada*  
E. Rashba, MD, *Stony Brook, NY*  
N. Reichek, MD, *Roslyn, NY*  
C. Rochitte, MD, *Sao Paulo, Brazil*  
J. S. Rumsfeld, MD, PhD, *Denver, CO*  
T. Rutledge, MD, *San Diego, CA*  
M. Sabaté, MD, PhD, *Madrid, Spain*  
M. S. Sabatine, MD, MPH, *Boston, MA*  
M. Safar, MD, *Paris, France*  
P. Schoenhagen, MD, *Cleveland, OH*  
J. Schofer, MD, *Hamburg, Germany*  
S. Schroeder, MD, *Göppingen, Germany*  
J. Schuijff, MD, *Leiden, the Netherlands*  
P. J. Schwartz, MD, *Pavia, Italy*  
S. Sen-Chowdhry, MD,  
    *London, United Kingdom*  
P. W. W. Serruys, MD,  
    *Rotterdam, the Netherlands*  
P. K. Shah, MD, *Los Angeles, CA*  
L. J. Shaw, PhD, *Atlanta, GA*  
P. Sorajja, *Rochester, MN*  
G. Stankovic, MD, *Belgrade, Serbia*  
C. I. Stefanidis, MD, *Athens, Greece*  
S. R. Steinbahl, MD, *Danville, PA*  
G. W. Stone, MD, *New York, NY*  
P. H. Stone, MD, *Boston, MA*  
B. H. Strauss, MD, PhD,  
    *Toronto, Ontario, Canada*  
H. Taegtmeyer, MD, *Houston, TX*  
W. H. Wilson Tang, MD,  
    *Cleveland, OH*  
C. Tei, MD, *Kagoshima, Japan*  
J. Teerlink, MD, *San Francisco, CA*  
J. M. Tobis, MD, *Los Angeles, CA*  
C. L. Tommaso, MD, *Skokie, IL*  
D. Tousoulis, MD, PhD,  
    *Athens, Attiki, Greece*  
J. Towbin, MD, *Cincinnati, OH*  
H-F. Tse, MD, *Hong Kong, China*  
Z. Turi, MD, *Camden, NJ*  
E. Murat Tuzcu, MD, *Cleveland, OH*  
J. Udelson, MD, *Boston, MA*  
B. Uretsky, MD, *Little Rock, AR*  
M. Vannan, MBBS, *Columbus, OH*  
J. M. Van Werkhoven, MSc,  
    *Leiden, the Netherlands*  
H. O. Ventura, MD, *New Orleans, LA*  
Z. Vered, MD, *Zerifin, Israel*  
R. Virmani, MD, *Gaithersburg, MD*  
S. Viskin, MD, *Tel-Aviv, Israel*  
P. Voci, MD, *Rome, Italy*  
R. A. Vogel, MD, *Baltimore, MD*  
A. Voors, MD, PhD,  
    *Groningen, the Netherlands*  
F. Wackers, MD, *New Haven, CT*  
R. Waksman, MD, *Washington, DC*  
D. D. Waters, MD, *San Francisco, CA*  
W. D. Weaver, MD, *Detroit, MI*  
G. Webb, MD, *Cincinnati, OH*  
J. Webb, MD, *Vancouver,*  
    *British Columbia, Canada*  
L. A. Weinrauch, MD,  
    *Watertown, MA*  
W. Weintraub, MD, *Newark, DE*  
C. White, MD, *New Orleans, LA*  
W. Wijns, MD, PhD, *Aalst, Belgium*  
D. J. Wilber, MD, *Maywood, IL*  
D. O. Williams, MD, *Boston, MA*  
R. F. Wilson, MD, *Minneapolis, MN*  
A. Wu, PhD, *San Francisco, CA*  
D. G. Wyse, MD, PhD,  
    *Calgary, Alberta, Canada*  
J. S. Yadav, MD, *Atlanta, GA*  
M. Zabalgoitia, MD, *Springfield, IL*  
W. Zareba, MD, *Rochester, NY*  
B. Zaret, MD, *New Haven, CT*  
M. R. Zile, MD, *Charleston, SC*  
W. A. Zoghbi, MD, *Houston, TX*